

Exhibit 1

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

**UNITED SERVICES AUTOMOBILE
ASSOCIATION,**

Plaintiff,

v.

WELLS FARGO BANK, N.A.,

Defendant.

Case No. 2:18-cv-366-JRG

DEFENDANT WELLS FARGO BANK N.A.'S INVALIDITY CONTENTIONS

Contents

I.	RESERVATIONS.....	1
A.	General Reservations	1
B.	Ongoing Discovery	2
C.	Claim Construction	4
D.	USAA’s Infringement Contentions.....	5
E.	The Intrinsic Record	6
F.	Rebuttal Evidence	6
G.	Contextual Evidence	7
H.	Invalidity Under Section 102(f) Prior Art.....	7
I.	Priority and Effective Filing Date.....	8
J.	No Patentable Weight	8
II.	IDENTIFICATION OF PRIOR ART.....	9
A.	Prior Art Patents and Published Applications.....	10
B.	Prior Art Non-Patent References	21
C.	Prior Art Offered For Sale and/or Publicly Used or Known	28
D.	Admitted Prior Art	33
E.	The Applicants’ Own Prior Patent and Published Applications.....	41
III.	PRIOR ART CLAIM CHARTS	42
IV.	PRIOR ART UNDER 35 U.S.C. § 102 THAT ANTICIPATES THE ASSERTED CLAIMS OF THE ASSERTED PATENTS.....	44
V.	PRIOR ART UNDER 35 U.S.C. § 103 THAT RENDERS OBVIOUS THE ASSERTED CLAIMS OF THE ASSERTED PATENTS.....	61
VI.	MOTIVATION FOR COMBINING IDENTIFIED PRIOR ART	61
VII.	INVALIDITY UNDER 35 U.S.C. § 112(¶1/a)	70
VIII.	INVALIDITY UNDER 35 U.S.C. § 112(¶2/b).....	78
IX.	INVALIDITY UNDER 35 U.S.C. § 101.....	80
X.	ACCOMPANYING DOCUMENT PRODUCTION	80

Pursuant to Rule 3-3 of the Local Patent Rules of the Eastern District of Texas and the Court's Docket Control Order (Dkt. No. 33), Defendant Wells Fargo Bank, N.A. ("Defendant" or "Wells Fargo") provides Plaintiff United Services Automobile Association ("Plaintiff" or "USAA") with notice of its Invalidity Contentions (the "Invalidity Contentions") with respect to those claims asserted against it by USAA in its November 13, 2018 Initial Disclosure of Asserted Claims and Infringement Contentions, collectively being claims 1-4, 6-11, 13-18, and 20 of U.S. Patent No. 8,392,332 (the "'332 Patent"); claims 1-12 of U.S. Patent No. 8,708,227 (the "'227 Patent"); claims 1-2, 5-8, 11-15, and 18 of U.S. Patent No. 9,224,136 (the "'136 Patent"); claims 1-3, 5-7, 9-14, 16-25, and 27-29 of U.S. Patent No. 10,013,605 (the "'605 Patent"); and claims 1-3, 5-14, 16-26, and 28-30 of U.S. Patent No. 10,013,681 (the "'681 Patent") (collectively and respectively, the "Asserted Patents" and the "Asserted Claims").

I. RESERVATIONS

A. General Reservations

Wells Fargo relies on and incorporates by reference, as if originally set forth herein, all invalidity or unenforceability positions, and all associated prior art and arguments, raised during the prosecution of the Asserted Patents. Moreover, Wells Fargo reserves the right, to the extent permitted by the Court and the applicable statutes and rules, to supplement these Invalidity Contentions based on prior art currently known to USAA, including documents responsive to the mandatory disclosures contained in the Court's Discovery Order (Dkt. No. 30) and prior art identified or provided to USAA by any third party.

Consistent with Patent Rule 3-6, Wells Fargo reserves the right to amend these Invalidity Contentions. Wells Fargo reserves the right to amend or supplement these disclosures and the corresponding document production should USAA: 1) provide any information that it failed to provide in its Patent Rule 3-1 and 3-2 disclosures; 2) amend its Patent Rule 3-1 or 3-2 disclosures

in any way; or 3) attempt to rely on any information at trial, in a hearing or during a deposition which it failed to provide in its Patent Rule 3-1 and 3-2 disclosures.

Wells Fargo provides the information below, as well as the accompanying production of documents, for the sole purpose of complying with Patent Rules 3-3 and 3-4. The information provided shall not be deemed an admission regarding the scope of any claims or the proper construction of those claims or any terms contained therein. Nothing contained in these Invalidity Contentions should be understood or deemed to be an express or implied admission or contention with respect to the proper construction of any terms in the Asserted Claims, or with respect to the alleged infringement of the Asserted Claims.

B. Ongoing Discovery

Furthermore, because only limited discovery has occurred and because Wells Fargo continues its search for and analysis of relevant prior art, Wells Fargo reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should Wells Fargo's further search and analysis yield additional information or references, consistent with the Local Patent Rules and the Federal Rules of Civil Procedure.

Wells Fargo's Invalidity Contentions are based on information reasonably available to it as of the date of these contentions. Because discovery is ongoing Wells Fargo expressly reserves the right to clarify, alter, amend, modify, or supplement these Invalidity Contentions, to identify additional prior art, and to rely on additional information, documents, tangible things, and testimony obtained during discovery, including discovery obtained from third parties. For example, prior art not included in these contentions whether or not known to Wells Fargo at this time, may become relevant depending on the positions USAA asserts and the claim constructions the Court adopts.

Discovery is in its infancy and is ongoing, and Wells Fargo's prior art investigation and third-party discovery are therefore not yet complete. Wells Fargo reserves the right to present additional items of prior art under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or 103 located during the course of discovery or further investigation. For example, Wells Fargo has issued and may issue additional subpoenas to third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed herein and/or additional prior art. These third parties include without limitation the authors, inventors, or assignees of the references listed in these disclosures. For example, for any given company's commercial products, Wells Fargo anticipates that additional documentation relating to these products will be discovered, and Wells Fargo reserves the right to rely on such documentation to further support these Invalidity Contentions. In addition, Wells Fargo reserves the right to assert invalidity under 35 U.S.C. § 102(c), (d), or (f) to the extent that discovery or further investigation yield information forming the basis for such invalidity.

Similarly, Wells Fargo has not had the opportunity to take any depositions of the inventors named on the face of the Asserted Patents or other persons having relevant information. Wells Fargo reserves the right to revise, amend or supplement these Invalidity Contentions pursuant to Federal Rule of Civil Procedure 26(e) and the Local Rules to the extent appropriate in light of further investigation and discovery regarding the defenses, the review and analysis of expert witnesses, or supplemental disclosures or contentions by USAA.

Wells Fargo accordingly reserves the right to modify these Invalidity Contentions by adding or withdrawing prior art and/or modifying any of the referenced claim charts in light of the Court's claim construction ruling, any amended or supplemental infringement contentions by USAA, any party admissions or admissions by any named inventor concerning the scope of the

claims or teachings of the prior art, or any positions taken by USAA in this or related litigation, covered-business method review, reexamination, or other proceeding, or to avoid unfair prejudice from USAA's failure to timely comply with its disclosure obligations. Furthermore, additional obviousness combinations of the references identified in these Invalidity Contentions are possible, and Wells Fargo reserves the right to use any such combination(s) in this case. In particular, Wells Fargo is currently unaware of the extent, if any, to which USAA will contend that limitations of the claims at issue are not disclosed in the art identified by Wells Fargo as anticipatory, and the extent to which USAA will contend that elements not disclosed in the specifications of the Asserted Patents and related applications would have been known to persons of ordinary skill in the art at the relevant time. To the extent that an issue arises with any such limitations, Wells Fargo reserves the right to identify other references that would have made such limitations obvious in view of the relevant disclosures.

Wells Fargo also reserves the right to revise its ultimate contentions concerning the invalidity of the Asserted Claims of the Asserted Patents, which may change depending on any findings as to the priority date of those claims and/or positions that USAA or expert witness(es) may take concerning infringement and/or invalidity issues.

C. Claim Construction

Wells Fargo does not waive the right to contest any claim constructions or to take positions during claim construction proceedings that have yet to occur that may be inconsistent with the Invalidity Contentions herein. Consequently, Wells Fargo also reserves the right to amend or supplement these Invalidity Contentions in the event that the claims are construed differently at some point in the future, in accordance with Patent Rule 3-6.

Wells Fargo does not necessarily adopt USAA's positions on the scope or construction of the claims. In certain instances, Wells Fargo has applied the claims to the prior art in view of

USAA's allegations, admissions, or positions for purposes of these contentions only. As such, Wells Fargo's Invalidity Contentions are not adoptions or admissions by Wells Fargo as to the accuracy of USAA's allegations, admissions, or positions. Accordingly, these contentions are made in the alternative, are not necessarily intended to be consistent with each other or other contentions, and should not be otherwise construed.

Wells Fargo expressly reserves the right to take positions with respect to future claim construction or infringement issues that are inconsistent with, or even contradictory to, the claim construction or infringement positions expressed or implied in the Invalidity Contentions set forth herein.

D. USAA's Infringement Contentions

USAA's disclosures under Patent Rules 3-1 and 3-2 are incomplete or deficient in numerous respects. For example, USAA has not yet specifically identified where each software element of each claim is found within each Accused Instrumentality as required by Patent Rule 3-1 and paragraph 3(a)(i) of this Court's Discovery Order (Dkt. No. 30). The lack of detail in USAA's Infringement Contentions has impaired Wells Fargo's ability to prepare these Invalidity Contentions by forcing it to speculate as to USAA's actual position on Wells Fargo's alleged infringement. Therefore, these Invalidity Contentions are based in whole or in part on the present understanding of the Asserted Claims and USAA's apparent positions as to the scope of the Asserted Claims as applied in its P.R. 3-1 disclosures. Wells Fargo further reserves the right to modify or add additional contentions in light of any amendment made by USAA under Local Patent Rule 3-6 or paragraph 3(a)(i) of this Court's Discovery Order. Furthermore, any such amendment may lead to further grounds for invalidity, Wells Fargo specifically reserves the right to modify, amend, or supplement its Invalidity Contentions as USAA modifies, amends, or

supplements its disclosures under Patent Rules 3-1, 3-2, and/or 3-6, produces documents in discovery, or amend its contentions under paragraph 3(a)(i) of this Court's Discovery Order.

Additionally, USAA has presented insufficient contentions for indirect infringement, *i.e.*, active inducement or contributory infringement. USAA has not, for example, provided detailed contentions that identify how Wells Fargo allegedly induces direct infringement of the Asserted Patents by a third party, or how Wells Fargo allegedly contributes to the infringement of the Asserted Patents by a third party. Nor has USAA provided detailed contentions regarding any alleged infringement by multiple parties pursuant to 35 U.S.C. § 271(a) (*i.e.*, joint infringement). Nor has USAA provided detailed contentions of any alleged infringement under the doctrine of equivalents. If USAA is permitted to provide this and other information relating to alleged indirect or joint infringement or infringement pursuant to the doctrine of equivalents, Wells Fargo will amend and supplement these Invalidity Contentions as appropriate.

E. The Intrinsic Record

Wells Fargo further reserves the right to rely on applicable industry standards and prior art cited in the specifications and file histories of the Asserted Patents, and any related U.S. and foreign patent applications as invalidating references or to show the state of the art. Wells Fargo further reserves the right to rely on the patent applicants' admissions concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*: the specifications; the patent prosecution history for the Asserted Patents and any related patents and/or patent applications or reexaminations; any deposition testimony of the named patent applicants on the Asserted Patents; and the papers filed and any evidence submitted by USAA in connection with this litigation.

F. Rebuttal Evidence

Prior art not included in these Invalidity Contentions, whether known or not known to Wells Fargo, may become relevant. In particular, Wells Fargo is currently unaware of the extent,

if any, to which USAA will contend that limitations of the Asserted Claims of the Asserted Patents are not disclosed in the prior art identified herein. To the extent that such an issue arises, Wells Fargo reserves the right to identify other references that would render obvious the allegedly missing limitation(s) or the disclosed device or method.

G. Contextual Evidence

Wells Fargo's claim charts cite particular teachings and disclosures of the prior art as applied to the limitation of each of the Asserted Claims. Persons having ordinary skill in the art, however, may generally view an item of prior art in the context of his or her experience and training, other publications, literature, products, and understanding. As such, the cited portions are only examples, and Wells Fargo reserves the right to rely on uncited portions of the prior art references and on other publications and expert testimony as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that the prior art discloses a claim limitation or the claimed subject matter as a whole. Wells Fargo further reserves the right to rely on uncited portions of the prior art references, other publications, and testimony, including expert testimony, to establish bases for combinations of certain cited references that render the Asserted Claims obvious. The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied on to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

H. Invalidity Under Section 102(f) Prior Art

Wells Fargo reserves the right to assert that the Asserted Claims of the Asserted Patents are invalid under 35 U.S.C. § 102(f) in the event Wells Fargo obtains evidence that (i) Charles Oakes, Randy Morlen, Bharat Prasad, and Troy Huth, and/or (ii) Charles Oakes, Randy Morlen,

Michael Morris, Reynaldo Medina, Greg Harpel, Gabriel Gavia, Bharat Prasad, Frank Major, and Jeffrey Pollack, the inventors named on the Asserted Patents or related patents, did not themselves “invent” the subject matter claimed. Should Wells Fargo obtain such evidence, it will provide the name of the person(s) from whom and the circumstances under which the claimed subject matter or any part of it was derived.

I. Priority and Effective Filing Date

With respect to the '136 Patent, the '332 Patent, the '681 Patent, and the '605 Patent, Wells Fargo contends that USAA will be unable to demonstrate that the Asserted Claims are entitled to claim a priority date or effective filing date earlier than the actual filing date of the application that issued as that patent. No ancestor application provides a disclosure sufficient under 35 U.S.C. § 112(a) to support such claim as required by section 119(e) or 120. *See* Section VIII below. If USAA cannot backdate all of the claims of the '136 Patent, the '681 Patent, and the '605 Patent before those patents' actual filing date, then the Asserted Claims of the '136 Patent, the '681 Patent, and the '605 Patent are governed by the first-to-file provisions of the AIA. With respect to the '136 Patent, the '681 Patent, and the '605 Patent, all references herein to the Patent Act or requirements of the Patent Act refer to both the first-to-file and first-to-invent versions of the Patent Act. Wells Fargo reserves the right to amend these contentions on the Court's determination of the priority date(s) of the Asserted Claims. Wells Fargo further reserves the right to use related patents in the alleged chain of priority of the Asserted Patents, its own Accused Products, and additional references identified in co-pending Case No. 2:18-cv-245, as prior art following the Court's determination of the priority date(s) of the Asserted Claims.

J. No Patentable Weight

Wells Fargo reserves the right to argue that various portions of the Asserted Claims, such as an intended use or result, non-functional descriptive material, and certain preamble language,

are entitled to no patentable weight. Mapping of a portion of an Asserted Claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

K. Inequitable Conduct

Wells Fargo reserves the right to contend that the Asserted Patents are unenforceable due to inequitable conduct by USAA or the applicant, including but not limited to inequitable conduct by failure to disclose any of the references identified below to the extent that USAA or the applicant was aware of the reference during prosecution of an Asserted Patent but did not disclose it to the reviewing agency.

II. IDENTIFICATION OF PRIOR ART

At least the prior art listed below, individually or in combination, invalidates the Asserted Claims. *See* Patent Rule 3-3(a). Exhibits A1-E79 provide detailed claim charts showing where each claim element may be found in the particular reference being charted.

Wells Fargo identifies the following items of prior art that anticipate or render obvious the Asserted Claims. The identification of prior art below is not exclusive, and Wells Fargo's production pursuant to Patent Rule 3-3 contains additional references that render the Asserted Claims invalid. Wells Fargo reserves the right to rely on both the listed and unlisted references produced pursuant to Patent Rule 3-3, as well as other art that may become known and/or relevant during the course of this or related litigation.

For those references for which detailed claim charts are not provided in Exhibits A1-E79, those additional prior art references are otherwise pertinent to the invalidity of the Asserted Patents, either alone or in combination with other references. At this time, Wells Fargo is not providing claim charts for each of these additional references, either because they are cited in conjunction with primary references for which charts have already been provided and are cited

therein, and/or because these references have similar disclosure to the prior art references for which invalidity charts have been provided and/or may be used to show the state of the art.

Wells Fargo also incorporates as if fully set forth herein the complete file histories for the Asserted Patents, including any prior art or supporting documents cited therein.

Wells Fargo not only relies on the prior art disclosed herein, but also relies on any commercial embodiments and accompanying literature of the various assignees that correspond to the respective disclosures found within the prior art disclosed herein. The assignees' various and respective commercial embodiments and/or corresponding literature anticipate and/or render obvious the claims of the Asserted Patents for at least the reasons disclosed in these Invalidity Contentions and claim charts, as well as for other independent reasons found within the commercial embodiments and corresponding literature. Wells Fargo also reserves the right to rely on related patents, published applications, foreign patents or publications, and other patent documents as necessary to establish prior art status or clarify the disclosures cited.

Wells Fargo reserves the right to revise its claim charts to rely on any of these references to prove the invalidity of the claims of the Asserted Patents in a manner consistent with the Federal Rules of Civil Procedure, the Court's Local Rules, and this Court's Orders.

A. Prior Art Patents and Published Applications

- U.S. Patent No. 3,039,582 to Simjian, issued June 19, 1962
- U.S. Patent No. 4,205,780 to Burns, issued Jun. 3, 1980
- U.S. Patent No. 4,315,426 to Milford, issued Feb. 9, 1982
- U.S. Patent No. 4,888,812 to Dinan, issued Dec. 19, 1989
- U.S. Patent No. 4,933,536 to Lindemann, issued Jun. 12, 1990
- U.S. Patent No. 4,948,174 to Thomson, issued Aug. 14, 1990
- U.S. Patent No. 4,974,878 to Josephson, issued Dec. 4, 1990

- U.S. Patent No. 5,023,782 to Lutz, issued Jun. 11, 1991
- U.S. Patent No. 5,054,092 to LaCaze, issued Oct. 1, 1991
- U.S. Patent No. 5,077,805 to Tan, issued Dec. 31, 1991
- U.S. Patent No. 5,091,968 to Higgins, issued Feb. 25, 1992
- U.S. Patent No. 5,120,944 to Kern, issued Jun. 9, 1992
- U.S. Patent No. 5,175,682 to Higashiyama, issued Dec. 29, 1992
- U.S. Patent No. 5,187,750 to Behera, issued Feb. 16, 1993
- U.S. Patent No. 5,237,158 to Kern, issued Aug. 17, 1993
- U.S. Patent No. 5,237,620 to Deaton, issued Aug. 17, 1993
- U.S. Patent No. 5,335,292 to Lovelady, issued Aug. 2, 1994
- U.S. Patent No. 5,345,090 to Hludzinski, issued Sep. 6, 1994
- U.S. Patent No. 5,349,170 to Kern, issued Sep. 20, 1994
- U.S. Patent No. 5,444,616 to Nair, issued Aug. 22, 1995
- U.S. Patent No. 5,455,875 to Chevion, issued Oct. 3, 1995
- U.S. Patent No. 5,484,988 to Hills, issued Jan. 19, 1996
- U.S. Patent No. 5,502,576 to Ramsay, issued Mar. 26, 1996
- U.S. Patent No. 5,506,691 to Bednar, issued Apr. 9, 1996
- U.S. Patent No. 5,687,963 to Mennie, issued Nov. 18, 1997
- U.S. Patent No. 5,708,810 to Kern, issued Jan. 13, 1998
- U.S. Patent No. 5,754,673 to Brooks, issued May 19, 1998
- U.S. Patent No. 5,801,366 to Funk, issued Sep. 1, 1998
- U.S. Patent No. 5,819,236 to Josephson, issued Oct. 6, 1998
- U.S. Patent No. 5,870,725 to Bellinger, issued Feb. 9, 1999
- U.S. Patent No. 5,890,141 to Carney, issued Mar. 30, 1999

- U.S. Patent No. 5,895,455 to Bellinger, issued Apr. 20, 1999
- U.S. Patent No. 5,903,878 to Talati, issued May 11, 1999
- U.S. Patent No. 5,930,778 to Geer, issued Jul. 27, 1999
- U.S. Patent No. 5,966,698 to Pollin, issued Oct. 12, 1999
- U.S. Patent No. 6,038,553 to Hyde, issued Mar. 14, 2000
- U.S. Patent No. 6,059,185 to Funk, issued May 9, 2000
- U.S. Patent No. 6,129,273 to Shah, issued Oct. 10, 2000
- U.S. Patent No. 6,148,102 to Stolin, issued Nov. 14, 2000
- U.S. Patent No. 6,149,056 to Stinson, issued Nov. 21, 2000
- U.S. Patent No. 6,032,137 to Ballard, issued Feb. 29, 2000
- U.S. Patent No. 6,181,837 to Cahill, issued Jan. 30, 2001
- U.S. Patent No. 6,351,553 to Hayosh, issued Feb. 26, 2002
- U.S. Patent No. 6,351,735 to Deaton, issued Feb. 26, 2002
- U.S. Patent No. 6,394,358 to Thaxton, issued May 28, 2002
- U.S. Patent No. 6,464,134 to Page, issued Oct. 15, 2002
- U.S. Patent No. 6,473,519 to Pidhirny, issued Oct. 29, 2002
- U.S. Patent No. 6,474,548 to Montross, issued Nov. 5, 2002
- U.S. Patent No. 6,504,946 to Rossignoli, issued Jan. 7, 2003
- U.S. Patent No. 6,554,185 to Montross, issued Apr. 29, 2003
- U.S. Patent No. 6,574,377 to Cahill, issued Jun. 3, 2003
- U.S. Patent No. 6,567,530 to Keronen, issued May 20, 2003
- U.S. Patent No. 6,578,760 to Otto, issued Jun. 17, 2003
- U.S. Patent No. 6,600,823 to Hayosh, issued Jul. 29, 2003
- U.S. Patent No. 6,647,376 to Farrar, issued Nov. 11, 2003

- U.S. Patent No. 6,663,001 to Suttie, issued Dec. 16, 2003
- U.S. Patent No. 6,739,503 to Murison, issued May 25, 2004
- U.S. Patent No. 6,741,279 to Allen, issued May 25, 2004
- U.S. Patent No. 6,758,395 to Elwin, issued Jul. 6, 2004
- U.S. Patent No. 6,845,366 to Hassanein, issued Jan. 18, 2005
- U.S. Patent No. 6,930,709 to Creamer, issued Aug. 16, 2005
- U.S. Patent No. 6,978,927 to Latimer, issued Dec. 27, 2005
- U.S. Patent No. 7,000,828 to Jones, issued Feb. 21, 2006
- U.S. Patent No. 7,020,320 to Filatov, issued Mar. 28, 2006
- U.S. Patent No. 7,027,171 to Watanabe, issued Apr. 11, 2006
- U.S. Patent No. 7,118,032 to Elliot, issued Oct. 10, 2006
- U.S. Patent No. 7,175,077 to VanKirk, published Sep. 14, 2006
- U.S. Patent No. 7,191,936 to Smith, published Jun. 16, 2005
- U.S. Patent No. 7,147,147 to Enright, issued Dec. 12, 2006 (priority Jul. 18, 2005)
- U.S. Patent No. 7,195,152 to VanKirk, published Sep. 14, 2006
- U.S. Patent No. 7,201,313 to Ramachandran, issued Apr. 10, 2007 (priority May 2, 2006)
- U.S. Patent No. 7,207,477 to Ramachandran, issued Apr. 24, 2007 (priority Mar. 8, 2004)
- U.S. Patent No. 7,213,746 to VanKirk, published Sep. 14, 2006 (priority Mar. 8, 2006)
- U.S. Patent No. 7,216,106 to Buchanan, issued May 8, 2007 (priority Oct. 2, 2000)
- U.S. Patent No. 7,229,010 to VanKirk, published Sep. 14, 2006
- U.S. Patent No. 7,239,346 to Priddy, issued Jul. 3, 2007 (priority Oct. 18, 1999)
- U.S. Patent No. 7,245,765 to Myers, published May 12, 2005

- U.S. Patent No. 7,255,265 to VanKirk, published Sep. 14, 2006
- U.S. Patent No. 7,272,788 to Anderson, published Jul. 4, 2002
- U.S. Patent No. 7,296,747 to Rohs, published Nov. 3, 2005
- U.S. Patent No. 7,349,884 to Odom, issued Mar. 25, 2008 (priority Mar. 29, 2001)
- U.S. Patent No. 7,377,425 to Ma, issued May 27, 2008 (priority Mar. 8, 2006)
- U.S. Patent No. 7,391,934 to Goodall issued Jul. 24, 2008 (priority Oct. 5, 2005)
- U.S. Patent No. 7,392,935 to Byrne, issued Jul. 1, 2008 (priority Feb. 10, 2005)
- U.S. Patent No. 7,419,093 to Blackson, issued Sep. 2, 2008 (priority Sep. 16, 2004)
- U.S. Patent No. 7,424,969 to Taylor, published Sep. 22, 2005
- U.S. Patent No. 7,428,984 to Crews, issued Sep. 30, 2008 (priority Mar. 8, 2006)
- U.S. Patent No. 7,447,347 to Weber, published Aug. 17, 2006 (priority Feb. 17, 2005)
- U.S. Patent No. 7,494,052 to Carpenter, issued Feb. 24, 2009 (priority Mar. 8, 2006)
- U.S. Patent No. 7,539,646 to Gilder, issued May 26, 2009 (priority Oct. 10, 2006)
- U.S. Patent No. 7,548,641 to Gilson, published Aug. 17, 2006 (priority Aug. 25, 2005)
- U.S. Patent No. 7,577,614 to Warren, issued Aug. 18, 2009 (priority Jan. 19, 2005)
- U.S. Patent No. 7,593,605 to King, published Feb. 9, 2006
- U.S. Patent No. 7,600,673 to Stoutenburg, published Oct. 24, 2002
- U.S. Patent No. 7,606,762 to Heit, issued Oct. 20, 2009 (priority Nov. 5, 2004)
- U.S. Patent No. 7,637,422 to Kwak, issued Dec. 29, 2009 (priority Jun. 27, 2006)
- U.S. Patent No. 7,677,442 to VanKirk, published Jul. 6, 2006
- U.S. Patent No. 7,702,588 to Gilder, published Apr. 10, 2008 (priority Oct. 10, 2006)

- U.S. Patent No. 7,735,721 to Ma, issued Jun. 15, 2010 (priority Mar. 8, 2006)
- U.S. Patent No. 7,748,611 to Carpenter, issued Jul. 6, 2010 (priority Nov. 2, 2005)
- U.S. Patent No. 7,797,250 to Pintsov, issued Sep. 14, 2010 (priority Nov. 18, 2005)
- U.S. Patent No. 7,798,398 to Meek, issued Sep. 21, 2010 (priority May 6, 2005)
- U.S. Patent No. 7,812,860 to King, published May 11, 2006
- U.S. Patent No. 7,840,485 to Warren, issued Nov. 23, 2010 (priority Jan. 19, 2005)
- U.S. Patent No. 7,856,401 to Ross, published Jan. 13, 2005
- U.S. Patent No. 8,126,808 to Reid, issued Feb. 28, 2012 (priority Jan. 30, 2006)
- U.S. Patent No. 8,162,125 to Csulits, issued Apr. 24, 2012 (priority Nov. 2, 2004)
- U.S. Patent No. 8,302,855 to Ma, issued Nov. 6, 2012 (priority Mar. 9, 2005)
- U.S. Patent No. 8,387,862 to Mueller, issued Mar. 5, 2013 (priority May 17, 2006)
- U.S. Patent No. 8,430,309 to Ma, issued Apr. 30, 2013 (priority Mar. 9, 2005)
- U.S. Patent No. 8,523,235 to Kwak, issued Sep. 3, 2013 (priority Feb. 3, 2006)
- U.S. Patent No. 7,996,312 to Beck, issued Aug. 9, 2011 (priority Mar. 1, 2002)
- U.S. Patent No. 8,155,975 to Heit, issued Apr. 10, 2012 (priority Nov. 5, 2004)
- U.S. Patent No. 8,179,563 to King, issued May 15, 2012 (priority Aug. 23, 2005)
- U.S. Patent No. 8,497,983 to Cowburn, issued July 30, 2013 (priority Apr. 20, 2006)
- U.S. Patent No. 9,208,480 to Heit, issued Dec. 8, 2015 (priority Nov. 5, 2004)
- U.S. Reissue Patent RE41,418, reissued Jul. 6, 2010 (priority Jan. 4, 2005)
- U.S. Patent Application No. 2001/0051921 to Garner, published Dec. 13, 2001
- U.S. Patent Application No. 2002/0001393 to Jones, published Jan. 3, 2002
- U.S. Patent Application No. 2002/003896 to Yamazaki, published Jan. 10, 2002

- U.S. Patent Application No. 2002/0145035 to Jones, published Oct. 10, 2002
- U.S. Patent Application No. 2002/0152164 to Dutta, published Oct. 17, 2002
- U.S. Patent Application No. 2002/0152166 to Dutta, published Oct. 17, 2002
- U.S. Patent Application No. 2002/0152169 to Dutta, published Oct. 17, 2002
- U.S. Patent Application No. 2002/0152170 to Dutta, published Oct. 17, 2002
- U.S. Patent Application No. 2003/0058343 to Katayama, published Mar. 27, 2003
- U.S. Patent Application No. 2003/0121966 to George, published Jul. 3, 2003
- U.S. Patent Application No. 2003/0139994 to Jones, published Jul. 24, 2003
- U.S. Patent Application No. 2003/0172030 to Volgunin, published Sep. 11, 2003
- U.S. Patent Application No. 2004/0010466 to Anderson, published Jan. 15, 2004
- U.S. Patent Application No. 2004/0101196 to Weitman, published May 27, 2004
- U.S. Patent Application No. 2004/0109597 to Lugg, published Jun. 10, 2004
- U.S. Patent Application No. 2004/0133516 to Buchanan, published Jul. 8, 2004
- U.S. Patent Application No. 2004/0153408 to Jones, published Aug. 5, 2004
- U.S. Patent Application No. 2004/0232218 to Graham, published Nov. 25, 2004
- U.S. Patent Application No. 2004/0260636 to Marceau, published Dec. 23, 2004
- U.S. Patent Application No. 2005/0018896 to Heit, published Jan. 27, 2005
- U.S. Patent Application No. 2005/0021466 to Buchanan, published Jan. 27, 2005
- U.S. Patent Application No. 2005/0035191 to Latimer, published Feb. 17, 2005
- U.S. Patent Application No. 2005/0035193 to Gustin, published Feb. 17, 2005
- U.S. Patent Application No. 2005/0038748 to Latimer, published Feb. 17, 2005
- U.S. Patent Application No. 2005/0097046 to Singfiled, published May 5, 2005
- U.S. Patent Application No. 2005/0108168 to Halpin, published May 19, 2005
- U.S. Patent Application No. 2005/0129300 to Sandison, published Jun. 16, 2005

- U.S. Patent Application No. 2005/0163362 to Jones, published Mar. 16, 2005
- U.S. Patent Application No. 2005/0266839 to Paul, published Dec. 1, 2005
- U.S. Patent Application No. 2006/0054454 to Oh, published Mar. 16, 2006
- U.S. Patent Application No. 2006/0080252 to Doran, published Apr. 13, 2006
- U.S. Patent Application No. 2006/0088199 to Shizuka, published Apr. 27, 2006
- U.S. Patent Application No. 2006/0103893 to Azimi, published May 18, 2006
- U.S. Patent Application No. 2006/0112013 to Maloney, published May 25, 2006
- U.S. Patent Application No. 2006/0182331 to Gilson, published Aug. 17, 2006
- U.S. Patent Application No. 2006/0182332 to Weber, published Aug. 17, 2006
- U.S. Patent Application No. 2006/0184441 to Haschka, published Aug. 17, 2006
- U.S. Patent Application No. 2006/0202013 to VanKirk, published Sep. 14, 2006
- U.S. Patent Application No. 2006/0202014 to VanKirk, published Sep. 14, 2006
- U.S. Patent Application No. 2006/0202017 to VanKirk, published Sep. 14, 2006
- U.S. Patent Application No. 2006/0210192 to Orhun, published Sep. 21, 2006
- U.S. Patent Application No. 2006/0242062 to Peterson, published Oct. 26, 2006
- U.S. Patent Application No. 2006/0242063 to Peterson, published Oct. 26, 2006
- U.S. Patent Application No. 2006/0249567 to Byrne, published Nov. 9, 2006 (priority Feb. 10, 2005)
- U.S. Patent Application No. 2006/0261155 to Templeton, published Nov. 23, 2006 (priority Jul. 28, 2006)
- U.S. Patent Application No. 2006/0289630 to Updike, published Dec. 28, 2006 (priority Jun. 22, 2005)
- U.S. Patent Application No. 2007/0057035 to Jackman, published Mar. 15, 2007 (priority Sep. 9, 2005)
- U.S. Patent Application No. 2007/0063028 to Byerley, published Mar. 22, 2007 (priority Sep. 19, 2005)

- U.S. Patent Application No. 2007/0076941 to Carreon, published Apr. 5, 2007 (priority Oct. 5, 2005)
- U.S. Patent Application No. 2007/0084911 to Crowell, published Apr. 19, 2007 (priority Oct. 18, 2005)
- U.S. Patent Application No. 2007/0086642 to Foth, published Apr. 19, 2007 (priority Oct. 17, 2005)
- U.S. Patent Application No. 2007/0088953 to Hilton, published Apr. 19, 2007 (priority Sep. 13, 2004)
- U.S. Patent Application No. 2007/0095896 to Carpenter, published May 3, 2007 (priority Nov. 2, 2005)
- U.S. Patent Application No. 2007/0098244 to Franklin, published May 3, 2007 (priority Nov. 3, 2005)
- U.S. Patent Application No. 2007/0122024 to Haas, published May 31, 2007 (priority Nov. 29, 2005)
- U.S. Patent Application No. 2007/0130063 to Jindia, published Jun. 7, 2007 (priority Dec. 1, 2005)
- U.S. Patent Application No. 2007/0138255 to Carreon, published Jun. 21, 2007 (priority Dec. 16, 2005)
- U.S. Patent Application No. 2007/0164097 to Kwak, published Jul. 19, 2007 (priority Jun. 27, 2006)
- U.S. Patent Application No. 2007/0172107 to Jones, published Jul. 26, 2007 (priority Mar. 16, 2005)
- U.S. Patent Application No. 2007/0194102 to Cohen, published Aug. 23, 2007 (priority Feb. 18, 2006)
- U.S. Patent Application No. 2007/0244815 to Hawkins, published Oct. 18, 2007 (priority Jan. 30, 2006)
- U.S. Patent Application No. 2007/0251991 to Wilk, published Nov. 1, 2007 (priority Apr. 28, 2006)
- U.S. Patent Application No. 2007/0251992 to Sharma, published Nov. 1, 2007 (priority Apr. 28, 2006)
- U.S. Patent Application No. 2007/0267496 to Franklin, published Nov. 22, 2007 (priority May 16, 2006)

- U.S. Patent Application No. 2008/0040249 to Re, published Feb. 14, 2008 (priority Jan. 20, 2006)
- U.S. Patent Application No. 2008/0123932 to Jones, published May 29, 2008 (priority Mar. 16, 2005)
- U.S. Patent Application No. 2008/0197972 to Lawson, published Aug. 21, 2008 (priority Mar. 6, 2006)
- U.S. Patent Application No. 2008/034972 to Crews, published Dec. 25, 2008 (priority Jun. 29, 2004)
- U.S. Patent Application No. 2009/0114716 to Ramachandran, published May 7, 2009 (priority Mar. 8, 2004)
- U.S. Patent Application No. 2009/0173781 to Ramachandran, published Jul. 9, 2009
- U.S. Patent Application No. 2009/0182665 to Reid, published Jul. 16, 2009 (priority Jan. 30, 2006)
- U.S. Patent Application No. 2009/0261158 to Lawson, published Oct. 22, 2009 (priority Feb. 6, 2006)
- U.S. Patent Application No. 2009/0263004 to Hawkins, published Oct. 22, 2009 (priority Jan. 30, 2006)
- U.S. Patent Application No. 2009/0276358 to Dutta, published Nov. 5, 2009 (priority Apr. 12, 2001)
- U.S. Patent Application No. 2009/0307136 to Hawkins, published Dec. 10, 2009 (priority Jan. 30, 2006)
- U.S. Patent Application No. 2010/0092065 to Jones, published Apr. 15, 2010 (priority Jan. 9, 2004)
- U.S. Patent Application 2012/0166342 to Reid, published Jun. 28, 2012 (priority Jan. 30, 2006)
- U.S. Patent Application 2012/0292389 to Ramachandran, published Nov. 22, 2012 (priority Apr. 17, 1998)
- U.S. Patent Application No. 2013/0034292 to Hawkins, published Feb. 7, 2013 (priority Jan. 30, 2006)
- European Patent 0020507 to Owens, issued Aug. 1, 1986

- European Patent 1008096 to Jones, published Jun. 14, 2000
- European Patent Application 0482116 to Benkarski, published Feb. 12, 1993
- European Patent Application 0616296 to Sharman, published Sep. 21, 1994
- European Patent Application 0651345 to Ho, published Mar. 5, 1995
- European Patent Application 0984410 to Slater, published Aug. 3, 2000
- European Patent Application 0997838 to Rossignoli, published Mar. 5, 2000
- UK Patent Application GB2238415 to Debleu, published May 29, 1991
- UK Patent Application GB273375 to Lu, published Jun. 15, 1994
- French Patent FR2863753A1/B1 to Potinteanu, published Jun. 17, 2005
- Canadian Patent Application CA2165246A1 to Messenger, published Nov. 9, 1996
- Canadian Patent Application CA2316090A1 to Akister, published Feb. 6, 2001
- PCT Application WO 1991/06052 to Benkarski, published May 2, 1991
- PCT Application WO 1999/66450 to Busby, published Dec. 23, 1999
- PCT Application WO 2001/61436 to Acharya, published Aug. 23, 2001
- PCT Application WO 2004/008350 to Ashley, published Jan. 22, 2004
- PCT Application WO 2005/059852 to Cazalbou, published Jun. 30, 2005
- PCT Application WO 2005/111907 to Lim, published Nov. 24, 2005
- PCT Application WO 2006/036853 to King, published Apr. 6, 2006
- PCT Application WO 2006/042913 to Bourrieres, published Apr. 27, 2006
- PCT Application WO 2006/099004 to VanKirk, published Sep. 21, 2006
- Korean Patent Application KR 2000/0054621 to Kang, published Sep. 5, 2000
- Korean Patent Application KR 2000/0058789 to Cho, published Oct. 5, 2000
- Korean Patent Application KR 2002/0051640 to Kim, published Jun. 29, 2002
- Korean Patent Application KR 2003/0033865 to Lee, published May, 1 2003

- Korean Patent Application KR 20030093160 to Han, published Dec. 6, 2003
- Korean Patent Application KR 2004/0074358 to Yeom, published Aug. 25, 2003
- Korean Patent Application KR 2004/0076131 to Chon, published Aug. 31, 2004
- Korean Patent Application KR 2004/0082895 to Moon, published Sep. 30, 2004
- Korean Patent Application KR 2004/0101980 to Choi, published Dec. 3, 2004
- Korean Patent Application KR 2005/0114916 to Park, published Dec. 7, 2005
- Japanese Patent Application JP 2001/134702A to Ono, published May 18, 2001
- Japanese Patent Application JP 2003/001911A to Koakutsu, published Jan. 8, 2003
- Japanese Patent Application JP 2003/223602A to Ono, published Aug. 8, 2003
- Japanese Patent Application JP 2004/030174A to Fujita, published Jan. 29, 2004
- Japanese Patent Application JP 2006/268446 to Masaji, published Oct. 5, 2006
- Japanese Patent Application JPH04243497A to Nakamura, published Aug. 31, 1992
- Chinese Patent Application CN1760921A to Jin, published Apr. 19, 2006
- Taiwanese Patent TW200604961 to Hsu, issued Feb. 1, 2006
- Indian Patent Application IN1672005 to Anil, published Feb. 16, 2005
- Indian Patent Application IN7292004 to Nirmal, published Jul. 7, 2005

B. Prior Art Non-Patent References

- Advanced Financial Solutions, “AFS and NCR team to deliver cheque-image deposit at ATMs” (Dec. 2005)
- Agarwal, Arun, “Detection of Courtesy Amount Block on Bank Checks,” IEEE (1995)
- America National Standard for Financial Services, “X9.100-140-2004 – *Specifications for an Image Replacement Document IRD*” (2004)
- America National Standard for Financial Services, “DSTU X9.37-2003 – *Specifications for Electronic Exchange of Check and Image Data*” (2003)

- America National Standard for Financial Services, “X9.90 (DSTU 2003) – *Specifications for an Image Replacement Document – IRD*” (2003)
- America National Standard for Financial Services, “X9.7 - *Specifications for Check Background and Convenience Amount Field*” (1999)
- America National Standard for Financial Services, “X9.13 - *Specifications for Placement and Location of MICR Printing*” (1999)
- America National Standard for Financial Services, “ANS X9.27 – *Print and Testing Specification for Magnetic Ink Printing*” (2000)
- America National Standard for Financial Services, “X9.83 - *Specifications for Electronic Check Adjustments*” (2002)
- America National Standard for Financial Services, “X9.7-1999 - *Bank Check Background and Convenience Amount Field*” (1999)
- America National Standard for Financial Services, “X9.18-1998 - *Paper Specifications for Checks*” (1998)
- Appiani, Enrico, “Automatic Analysis and Indexing of Variable-Layout Documents,” Content-Based Multimedia Information Access (2000)
- Appiani, Enrico, “Automatic document classification and indexing in high-volume applications,” Int’l Journal on Document Analysis and Recognition (2001)
- ATM Marketplace, “Diebold introduces next-generation IDM” (2005)
- Automated Clearing Houses (ACHs), Federal Reserve Bank of New York (May 2000), available at <https://www.newyorkfed.org/aboutthefed/fedpoint/fed31.html>
- Aqel, Musbah, “Functions, Structure and Operation of a Modern System for Authentication of Signatures of Bank Checks,” Information Technology Journal (2005)
- *Big Red Book*, Adobe Systems Incorporated (2000)
- Broggi, A., “A Dedicated Image Processor Exploiting Both Spatial and Instruction-Level Parallelism,” IEEE (1997)
- Budnitz, Mark, “Consumer Payment Products and Systems: The Need for Uniformity and the Risk of Political Defeat,” Annual Review of Banking and Finance Law (Jan. 2005)
- Business Wire, “Top Five Financial Institution Selects VECTROsgi Image Exchange and VECTOR Exceptions Solutions” (May 2005)

- Canadian Payments Assn, “Cheque Imaging in Canada” (Jan. 2004)
- Canon, Check Reader CR-55 Startup Manual (2005)
- Canon, Capture Perfect 3.0 Operation Guide (2005)
- Celent, “Virtual Vaults: They’re not just for cash anymore” (May 2006)
- Check Clearing for the 21st Century Act Foundation for Check 21 Compliance Training, Federal Financial Institutions Examination Council, (Oct. 16, 2004), available at <https://web.archive.org/web/20041016100648/https://www.ffeic.gov/exam/check21/check21foundationdoc.htm>
- Cheriet, M., “A Recursive Thresholding Technique for Image Segmentation,” IEEE (1998)
- Cheq-IT Inc., “A Practical Guide to Distributed Systems Design for Check 21 Enabled – Check Image Capture” (Sep. 2005)
- Chin, Francis, “A Microprocessor-Based Optical Character Recognition Check Reader,” IEEE (1995)
- Claycomb, William, “Secure Real World Interaction Using Mobile Devices,” New Mexico Institute of Mining and Technology (May 2006)
- DeJesus, Angie, “Distributed Check Processing in a Check 21 Environment,” Panini (Nov. 2004).
- DeJesus, Angie, “Remote Deposit Capture – A Practical Guide for Corporations” Panini (2006)
- Dimauro, G., “Automatic Bankcheck Processing: A New Engineered System,” World Scientific (1997)
- Dodel, Jean-Pierre, “Symbolic/Neural Recognition of Cursive Amounts on Bank Cheques,” IEEE (1995)
- Dzuba, Gregory, “Check Amount Recognition Based on the Cross Validation of Courtesy and Legal Amount Fields,” International Journal of Pattern Recognition and Artificial Intelligence (1997)
- ECCHO, “Operational/Implementation Issues” (Jan. 2005) (available at https://www.checkimagecentral.org/wpcontent/uploads/2015/10/Check21_Operational.pdf)
- EFT Network, “Accounts Receivable Conversion / Check 21 System” (2005)

- Electronic Check Service, NOVA Information Systems (2005) (available at <http://www.strategicmerchant.com/Images/Documents/ECSPresentation.ppt>)
- Felsenfeld, Carl, “The Check Clearing for the 21st Century Act – A Wrong Turn in the Road to Improvement of the U.S. Payments System,” SSRN Electronic Journal (2005)
- Figueroa, Joseph, “iCheck: An Architecture for Secure Transactions in the Processing of Bank Checks,” MIT (1996)
- Fiserv, “Fiserv Develops Fully Integrated, End-to-End Solution for Processing of Business Customer Accounts” (Apr. 2005)
- FRB/Industry Image Returns Task Force, “A Framework for Exchanging Image Returns” (Jul. 2001)
- Graf, Hans, “Analysis of Complex and Noisy Check Images,” IEEE (1995)
- Guillevic, Didier, “Cursive Script Recognition Applied to the Processing of Bank Cheques,” IEEE (1995)
- Guillevic, Didier, “HMM-KNN Word Recognition Engine for Bank Cheque Processing,” IEEE (1998)
- Hassanein, Khaled, “An integrated system for automated financial document processing,” SPIE (1997)
- Heutte, L., “Multi-Bank Check Recognition System: Consideration on the Numeral Amount Recognition Module,” Int’l Journal of Pattern Recognition and Artificial Intelligence (1997)
- Higgins, Ray, “Small Check Scanner MICR Read Performance Benchmark Study” (Feb. 2006)
- IBM Consulting Services, “Check processing: The good, the bad, the...” (2005)
- Ingenico, “eN-Check 2500 SP – the new standard in check readers” (2001) (available at http://www.echex.net/media/products/slicks/ingenico_encheck_2500.pdf)
- Ingenico, “eN-Check 3000 – Dial check reader” (2005) (available at http://www.echex.net/media/products/slicks/ingenico_encheck_3000.pdf)
- Iso, Toshiki, “Visual Tag Reader: Image Capture by Cell Phone Camera,” Proceedings 2003 International Conference on Image Processing (2003)

- Ithaca, “PCOS Series 90Plus – MICR Programmer’s Guide” (2003) (available at <https://www.transact-tech.com/uploads/printers/files/100-9094-Rev-CMICR-Programmers-Guide.pdf>)
- Jackel, Lawrence, “Optical Character Recognition for Self-Service Banking,” AT&T Technical Journal (1995)
- Kellend, Steward, “A Comparison of Research and Production Architectures for Check Reading Systems,” NCR (1999)
- Keybank, “Payment solutions in an electronic era” (Sep. 2004)
- Kiyomatsu, Tetsuo, “A New Imaging System with a Stand-type Image Scanner” (2002)
- Koerich, Alessandro, “Automatic Extraction of Filled Information from Bankchecks,” IEEE (1997)
- Lacker, Jeffrey, “Payment System Disruptions and the Federal Reserve Following September 11, 2001,” The Federal Reserve Bank of Richmond (Dec. 23, 2003)
- Lam, L., “Automatic Processing of Information on Cheques,” IEEE (1995)
- Lange, Bill, “Combing Remote Capture and IRD Printing,” All My Papers (2005)
- Lange, Bill, “Getting Started with ICLs aka X9.37 Files” (2006)
- Leekley, John, “Remote Deposit Capture” (2005)
- Lethelier, E., “An Automatic Reading System for Handwritten Numeral Amounts on French Checks,” IEEE (1995)
- Liu, Ke, “Automatic Extraction of Item from Cheque Images for Payment Recognition,” IEEE (1996)
- Madasu, Vamsi, “Automatic Segmentation and Recognition of Bank Cheque Fields,” Digital Image Computing: Techniques and Applications (2005)
- Madasu, Vamsi, “Automatic Extraction of Signatures from Bank Cheques and Other Documents,” Digital Image Computing: Techniques and Applications (2003)
- Madhvanath, S., “Extracting Patron Data from Check Images,” IEEE (1999)
- Magtek, “MICRImage Check Reader – Technical Reference Manual” (Aug. 2003)
- McCine, Jonathan, “Seeing-Is-Believing: Using Camera Phones for Human Verifiable Authentication,” IEEE (2005)

- McGeer, Bonnie, “Remote Deposit Boosts Service, Cuts Cost,” American Banker (Jan. 2005)
- Michael, Katina, “The Technological Trajectory of the Automatic Identification Industry,” Univ. of Wollongong (2003)
- Moy, Melanie, “A Secure Architecture for Electronic Check Processing,” MIT (Sep. 2003)
- NCR, “ImageMark NCompass ATM Deposit Solution” (Jun. 2005)
- Ogata, Hisao, “Form Type Identification from Banking Applications and Its Implementation Issues,” SPIE Document Recognition and Retrieval (Jan. 2003)
- Palacios, Rafael, “A System for Processing Handwritten Bank Checks Automatically,” MIT (Feb. 2002)
- Panini, MyVisionX Brochure (2004)
- Parikh, Tapan, “Mobile Phones and Paper Documents: Evaluating a New Approach for Capturing Microfinance Data in Rural India,” CHI 2006 (Apr. 2006).
- PNC Business Strategies, “Check 21 – Clearing the Way for Business Banking Benefits” (2004)
- Reserve Bank of India, “Working Group on Cheque Truncation and E-Cheques” (Jul. 2003)
- Rohs, Michael, “Real-World Interaction with Camera-Phones,” Ubiquitous Computing Systems (2004)
- Rohs, Michael, “A Conceptual Framework for Camera Phone-based Interaction Techniques,” International Conference on Pervasive Computing (2005)
- Rohs, Michael, “Using Camera-Equipped Mobile Phones for Interacting with Real-World Objects,” Advances in Pervasive Computing (2004)
- Said, Joseph, “Automatic Processing of Documents and Bank Cheques,” Concordian Univ. (Nov. 1997)
- Sarvas, Risto, “Metadata Creation System for Mobile Images,” MobiSYS’04, (Jun. 2004)
- Seac Banche RS 85 Image Reader / Sorter, Seac Banche SPA (1999)
- Sebastian, Jose, “Remote-Access Education Based on Image Acquisition and Processing Through the Internet,” IEEE (2003)

- Sharman, D.B., “Self Service Document Processing for Banking Automation,” Institution of Electrical Engineers (1995)
- Shelby Systems, “Setting up and using the Cross Check Pro Shelby Interface” (2005) (available at <http://www.shelbyinc.com/Uploads%5CMarketing%5CCrossCheckProInstructionsFINAL11232005.pdf>)
- Stavins, Joanna, “A Comparison of Social Costs and Benefits of Paper Check Presentment and ECP with Truncation,” New England Economic Review (Feb. 1997)
- Strategy Partners, “Document and Content Capture” (2003)
- Suen, Ching, “Sorting and Recognizing Cheques and Financial Documents,” Centre for Pattern Recognition and Machine Intelligence (2003)
- Tang, Hanshen, “Spiral Recognition Methodology and Its Application for Recognition of Chinese Bank Checks,” IEEE (2004)
- Tang, Rui, “Electronic Checking System,” MIT (2004)
- TellerScan 210 Countertop Check Scanner, User’s Guide, Digital Check Corp. (Oct. 2004)
- TellerScan 215 Brochure, Digital Check Corp. (Mar. 2006)
- TellerScan 220E Countertop Check Scanner, User’s Guide, Digital Check Corp. (Jul. 2006)
- TellerScan 220 Countertop Check Scanner, User’s Guide, Digital Check Corp. (Oct. 2004)
- TellerScan 230 Check Scanner Brochure, Digital Check Corp. (Mar. 2006)
- TellerScan 350 Back Counter Check Scanner Brochure, Digital Check Corp. (Aug. 2004)
- Thaxton, Dan, “Check 21 and Image Security,” Standard Register (Mar. 2004)
- Ulges, Adrian, “Document Capture using Stereo Vision,” Proceedings of the 2004 ACM symposium on Document Engineering (Jan. 2004)
- Unisys, “Item Processing System – Technical Overview” (2001)
- Verifone, CR600 Fact Sheet (1999) (available at <http://www.1nps.com/manuals/credit-card-machine-manuals/verifonemanuals/VeriFone-CR600-Fact-Sheet.pdf>)

- Verma, Rohit, “Redesigning Check-Processing Operation Using Animated Computer Simulation,” Cornell University, The Scholarly Commons (2000)
- Von Kapff, Marcu, “Business Trends and Case Management Innovations,” Chase (Mar. 2006)
- Walsh, Patricia, “E-payment: Cheque 21,” Int’l Journal of Electronic Finance (2006)
- Wang, Shih-Yu, “Automating the United States Payment System,” MIT (1999)
- Wausau Financial Systems White Paper, “Understanding Image Quality & Usability Within a New Environment,” (2006)
- Wausau Financial Systems, “Image-enabled ATMs are win-win,” (Oct. 2005)
- Xerox, “Generic MICR fundamentals guide” (2003)
- Yu, Chin, “Location and recognition of legal Amounts on Chinese bank cheques,” IEEE (1997)

C. Prior Art Offered For Sale and/or Publicly Used or Known

Pursuant to Local Patent Rule 3-3(a), Wells Fargo provides the following information regarding prior art which was the subject of a commercial offer of sale and/or in public use prior to the earliest permissible priority date of the Asserted Patents. To the extent necessary, Wells Fargo has or will serve subpoenas and/or otherwise request further information pertaining to the products and/or software programs (and/or obtain the actual products and/or software programs themselves). For example, contemporaneous herewith, Wells Fargo has issued subpoenas to the following third parties who have knowledge, documentation, and/or corroborating evidence regarding the system art this section:

- RDM Corporation
- IBM Corporation
- Bank One Corporation
- Cheq-It Inc.

- JP Morgan Chase & Co.
- HSBC Bank USA, N.A.
- First Horizon National Corporation (parent of First Tennessee Bank)

To the extent necessary, Wells Fargo will amend and/or supplement these Invalidity Contentions based on information received in response.

- Wells Fargo Desktop Deposit.
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by Wells Fargo in the United States at least as early as Fall 2004.
 - The invention, purchase, evaluation, testing, implementation, making, using (publicly and/or commercially), disclosure, offering for sale, and/or sale of Wells Fargo's Desktop Deposit is supported by the:
 - Desktop DepositSM–*Pilot Fall 2004!*, WFB_00027042 – WFB_00027043
 - Desktop DepositSM Client Administrator's Guide, Ver. 1.7.1, WFB_00027044 – WFB_00027045
 - Desktop DepositSM Client User's Guide, Ver. 1.7.1, WFB_00027120– WFB_00027179
 - Check Image Quality Guidelines, WFB_00027203 – WFB_00027204
 - *Commercial Electronic Office® (CEO®)* Desktop Deposit – User Guide, April 2005, WFB_00027212 – WFB_00027249
 - Demo of Desktop Deposit, WFB_00027579 – WFB_00027581; WFB_00028418 – WFB_00028457; WFB_00028557 – WFB_00028558; WFB_00032361– WFB_00032391; WFB_0034994
 - Demo of Desktop Deposit, WFB_00034750 – WFB_00034958 and source code computer;
 - Desktop Deposit Business Requirements Document, Version 2.0 (8/30/04), WFB_00027848

- Desktop Deposit PROPOSAL, WFB_00027744
 - Desktop Deposit Application Architecture & Design Document, Version 1.5, WFB_00025458 – WFB_00028746
 - Functional Specification Design Document, Electronic Cash Letter Deposit – Input Remote MICR Capture File Process, Project: F4241 (June 7, 2004), WFB_00027582 – WFB_00027618
 - Check21 Client Flow, WFB_00034444 – WFB_00034446
 - Check21 Components for Courtesy Amount Recognition/Legal Amount Recognition Logical Architecture and Flow, WFB_00034469 – WFB_00034470
 - Additional documentation produced as WFB_00027042 – WFB_00034999;
 - Additional source code made available on the review computer contemporaneously herewith; and/or
 - Bruene, Jim, “Wells Fargo’s Remote Deposit Capture” (Apr. 2005) (available at <https://finovate.com/wells-fargo-remote-deposit-capture/>)
- Wells Fargo’s current understanding of the design, implementation, and capabilities of the Wells Fargo’s Desktop Deposit system is charted in (at least) the following references:
 - Wells Fargo Desktop Deposit
 - Byrne ’935
- RDM Corporation Image & Transaction Management System
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by RDM Corporation in the United States at least as early as November 2004.
 - The invention, purchase, evaluation, testing, implementation, making, using (publicly and/or commercially), disclosure, offering for sale, and/or sale of RDM Corporation Image & Transaction Management Systems is supported by the following (known to Wells Fargo at this time):
 - U.S. Provisional Patent Application No. 60/625,091

- Wells Fargo's current understanding of the design, implementation, and capabilities of the RDM Corporation Image & Transaction Management Systems is charted in (at least) the following references:
 - Heit '480
 - Heit '762
 - Heit '896 App
 - Heit '975
- Bank One Corporation Electronic Deposit System
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by Bank One Corporation in the United States at least as early as August 2001.
 - Wells Fargo's current understanding of the design, implementation, and capabilities of the Bank One Corporation Electronic Deposit system is charted in (at least) the following references:
 - Acharya WO436
- Cheq-It Inc. Check Image Capture Solution
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by Cheq-It Inc. in the United States at least as early as September 2005.
 - The invention, purchase, evaluation, testing, implementation, making, using (publicly and/or commercially), disclosure, offering for sale, and/or sale of Cheq-It Inc. Check Image Capture Solution is supported by the following (known to Wells Fargo at this time):
 - A Practical Guide to Distributed Systems Design for Check 21 Enabled – Check Image Capture
 - Wells Fargo's current understanding of the design, implementation, and capabilities of the Cheq-It Inc. Check Image Capture Solution is charted in (at least) the following references:
 - CheqIt Article
- IBM Electronic Check Processing Systems

- On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by IBM in the United States at least as early as April 2001
- Wells Fargo's current understanding of the design, implementation, and capabilities of the IBM Electronic Check Processing system is charted in (at least) the following references:
 - Dutta '164 App
 - Dutta '166 App
- Chase Manhattan Bank Image Direct Deposit
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by Chase Manhattan Bank in the United States at least as early as March 2006.
 - The invention, purchase, evaluation, testing, implementation, making, using (publicly and/or commercially), disclosure, offering for sale, and/or sale of Chase Manhattan Bank's Image Direct Deposit is supported by the following (known to Wells Fargo at this time):
 - von Kapff, Marcus, "Business Trends and Case Management Innovations" (Mar. 2006)
 - Wells Fargo's current understanding of the design, implementation, and capabilities of the Chase Manhattan Bank's Image Direct Deposit is charted in (at least) the following references:
 - von Kapff Presentation
 - Cahill '377
- HSBC Remote Deposit Capture Service
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by HSBC Bank USA in the United States at least as early as November 2004.
 - The invention, purchase, evaluation, testing, implementation, making, using (publicly and/or commercially), disclosure, offering for sale, and/or sale of

HSBC Remote Deposit Capture Service is supported by the following (known to Wells Fargo at this time):

- US Remote Deposit Capture Service Introduced by HSBC (Nov. 2004);
 - Bruene, Jim, “Wells Fargo’s Remote Deposit Capture” (Apr. 2005) (available at <https://finovate.com/wells-fargo-remote-deposit-capture/>)
- Wells Fargo’s current understanding of the design, implementation, and capabilities of the HSBC Remote Deposit Capture Service is charted in (at least) the following references:
 - HSBC Article
- First Tennessee Bank’s First Deposit Plus
 - On information and belief, this product package was invented, purchased, evaluated, compared, tested, implemented, made, used (publicly and/or commercially), disclosed, offered for sale, and/or sold by First Tennessee Bank in the United States at least as early as March 2004.
 - The invention, purchase, evaluation, testing, implementation, making, using (publicly and/or commercially), disclosure, offering for sale, and/or sale of First Tennessee Bank’s First Deposit Plus is supported by the following (known to Wells Fargo at this time):
 - Bruene, Jim, “Wells Fargo’s Remote Deposit Capture” (Apr. 2005) (available at <https://finovate.com/wells-fargo-remote-deposit-capture/>)
 - Kopchik, Jeffery, “Remote Deposit Capture: A Primer,” FDIC (available at <https://www.fdic.gov/regulations/examinations/supervisory/insights/sisum09/primer.html>);
 - “First Tennessee launches cheque imaging system for business customers” (Mar. 2004) (available at <https://www.finextra.com/newsarticle/11353/first-tennessee-launches-cheque-imaging-system-for-business-customers>)

D. Admitted Prior Art

USAA has expressly or implicitly admitted that certain elements recited in Asserted Claims of the Asserted Patents were known in the prior art and thus part of the state of the art. These

admissions include, but are not limited to, the following prior art concepts. Wells Fargo reserves the right to identify additional examples of admitted prior art and to further support the admissions identified below by relying on additional portions of the patent specification, statements made during the prosecution history of the Asserted Patents and the prosecution history of any related applications, and any statements by the USAA or the patent applicants.

Patent	Admissions by USAA
332	<p>The '332 Patent admits in its Background section that (i) the problems associated with the inconvenience of having to travel to a bank location to physically present the check for deposit, and (ii) the problems associated with an payee not having access to funds until the payee deposits the check and the check has cleared were known in the art and part of the background of the claimed invention, and that “there is a need for a convenient method of remotely depositing a check while enabling the payee to quickly access the funds from the check” ’332 Patent at 2:11-38 (Background)</p> <p>The '332 Patent further admits that “[g]eneral purpose computers are ubiquitous today,” and that such may be “in a desktop or laptop configuration, and generally has the ability to run any number of applications that are written for and compatible with the computer’s operating system,” including “well-known WINDOWS® brand operating systems made by MICROSOFT® Corp., or a MACINTOSH® (Mac) brand computer, running any of the APPLE® operating systems.” ’332 Patent at 3:58-67.</p> <p>The '332 Patent further admits that internet browsers were known in the art and “[c]ommon browsers in use today are, for example, the popular INTERNET EXPLORER® line of browsers made by MICROSOFT® Corp., the FIREFOX® browsers distributed via the MOZILLA® open source project, and the NETSCAPE NAVIGATOR® browsers also distributed via the MOZILLA® open source project.” ’332 Patent at 4:31-39.</p> <p>The '332 Patent further admits that the operation of browsers including URLs, web-page retrieval and web page display were “generally known and appreciated in the industry and by the general public.” ’332 Patent at 4:40-44</p> <p>The '332 Patent further admits that “virtual machine” technologies, “such as the JAVA® virtual machine software distributed by SUN MICROSYSTEMS® Corp, and .NET® Framework distributed by MICROSOFT® Corp.” and the ability of such virtual machines to facilitate execution of computer programs in a variety of computing environments to were known in the art. ’332 Patent at 4:45-62.</p>

Patent	Admissions by USAA
	<p>The '332 Patent further admits that "TWAIN software often used to control image capture from a computer" was known. '332 Patent at 5:1-3</p> <p>The '332 Patent further admits that financial institutions' maintenance of a server for the purposes of communicating with customers, or the maintenance and operation of such a server by a third party vendor, were "arrangements [that] are well known in the industry," '332 Patent at 5:19-29.</p> <p>The '332 Patent further admits that "[a] variety of technologies are available to establish secure connections over [] a public network." '332 Patent at 5:49-51</p> <p>The '332 Patent further admits that "[u]nder the current check handling procedures in the United States, the physical check is not necessary in processing a deposit, nor is it necessary to keep the original check in bank or customer records." '332 Patent at 9:11-15.</p> <p>The '332 Patent further admits that "Check 21 regulations require a bi-tonal TIFF formatted image." '332 Patent at 10:67-11:3.</p> <p>The '332 Patent further admits that ACH transactions were known and that such "typically include payment instructions to debit and/or credit an account," that "[b]anks often employ ACH service providers to settle ACH transactions, and that "[e]xamples of ACH service providers include regional branches of the Federal Reserve and the Electronic Payments Network (EPN)." '332 Patent at 11:29-34.</p> <p>The '332 Patent further admits that "[s]ubstitute checks were authorized under The Check Clearing for the 21st Century Act, commonly known as Check 21. The Act was enacted to facilitate the check clearing process by allowing banks to transmit electronic images of checks (e.g., substitute checks) to other banks rather than physically sending the original paper checks." '332 Patent at 11:49-64.</p> <p>The '332 Patent further admits that "identification information such as an image capture device Global Unique Identifier (GUID)" was known in the art and also that the "identification of software associated with the device, for example the familiar TWAIN drivers that can be used with scanners, digital cameras, and other image capture devices" was known in the art. '332 Patent at 13:3-9.</p>
227	<p>The '227 Patent admits in its Background section that (i) the problems associated with the inconvenience of having to travel to a bank location to physically present the check for deposit, and (ii) the problems associated with a payee not having access to funds until the payee deposits the check and the check has cleared were known in the art and part of the background of the claimed invention, and that "there is a need for a convenient method of remotely depositing a check while enabling the payee to quickly access the funds from the check" '227 Patent at 2:3-</p>

Patent	Admissions by USAA
	<p data-bbox="362 279 578 317">30 (Background)</p> <p data-bbox="362 352 1430 604">The '227 Patent further admits that “[g]eneral purpose computers are ubiquitous today,” and that such may be “in a desktop or laptop configuration, and generally has the ability to run any number of applications that are written for and compatible with the computer’s operating system,” including “well-known WINDOWS® brand operating systems made by MICROSOFT® Corp., or a MACINTOSH® (Mac) brand computer, running any of the APPLE® operating systems.” ’227 Patent at 4:15-26.</p> <p data-bbox="362 646 1425 863">The '227 Patent further admits that internet browsers were known in the art and “[c]ommon browsers in use today are, for example, the popular INTERNET EXPLORER® line of browsers made by MICROSOFT® Corp., the FIREFOX® browsers distributed via the MOZILLA® open source project, and the NETSCAPE NAVIGATOR® browsers also distributed via the MOZILLA® open source project.” ’227 Patent at 6:15-23.</p> <p data-bbox="362 905 1430 1010">The '227 Patent further admits that the operation of browsers including URLs, web-page retrieval and web page display were “generally known and appreciated in the industry and by the general public.” ’227 Patent at 6:24-30.</p> <p data-bbox="362 1052 1406 1230">The '227 Patent further admits that “virtual machine” technologies, “such as the JAVA® virtual machine software distributed by SUN MICROSYSTEMS® Corp, and .NET® Framework distributed by MICROSOFT® Corp.” and the ability of such virtual machines to facilitate execution of computer programs in a variety of computing environments to were known in the art. ’227 Patent at 6:31-48.</p> <p data-bbox="362 1272 1409 1335">The '227 Patent further admits that “TWAIN software often used to control image capture from a computer” was known. ’227 Patent at 6:54-56.</p> <p data-bbox="362 1377 1409 1524">The '227 Patent further admits that financial institutions’ maintenance of a server for the purposes of communicating with customers, or the maintenance and operation of such a server by a third party vendor, were “arrangements [that] are well known in the industry,” ’227 Patent at 7:23-33.</p> <p data-bbox="362 1566 1365 1629">The '227 Patent further admits that “[a] variety of technologies are available to establish secure connections over [] a public network.” ’227 Patent at 7:58-64.</p> <p data-bbox="362 1671 1386 1734">The '227 Patent further admits that Check 21 regulations require a bi-tonal TIFF formatted image. ’227 Patent at 12:46-47.</p>
136	<p data-bbox="362 1780 1406 1885">The '136 Patent admits in its Background section that (i) the problems associated with the inconvenience of having to travel to a bank location to physically present the check for deposit, and (ii) the problems associated with an payee not having</p>

Patent	Admissions by USAA
	<p>access to funds until the payee deposits the check and the check has cleared were known in the art and part of the background of the claimed invention, and that “there is a need for a convenient method of remotely depositing a check while enabling the payee to quickly access the funds from the check” ’136 Patent at 2:9-36 (Background)</p> <p>The ’136 Patent further admits that “[g]eneral purpose computers are ubiquitous today,” and that such may be “in a desktop or laptop configuration, and generally has the ability to run any number of applications that are written for and compatible with the computer’s operating system,” including “well-known WINDOWS® brand operating systems made by MICROSOFT® Corp., or a MACINTOSH® (Mac) brand computer, running any of the APPLE® operating systems.” ’136 Patent at 3:55-65.</p> <p>The ’136 Patent further admits that internet browsers were known in the art and “[c]ommon browsers in use today are, for example, the popular INTERNET EXPLORER® line of browsers made by MICROSOFT® Corp., the FIREFOX® browsers distributed via the MOZILLA® open source project, and the NETSCAPE NAVIGATOR® browsers also distributed via the MOZILLA® open source project.” ’136 Patent at 4:29-36.</p> <p>The ’136 Patent further admits that the operation of browsers including URLs, web-page retrieval and web page display were “generally known and appreciated in the industry and by the general public.” ’136 Patent at 4:36-42.</p> <p>The ’136 Patent further admits that “virtual machine” technologies, “such as the JAVA® virtual machine software distributed by SUN MICROSYSTEMS® Corp, and .NET® Framework distributed by MICROSOFT® Corp.” and the ability of such virtual machines to facilitate execution of computer programs in a variety of computing environments to were known in the art. ’136 Patent at 4:43-60.</p> <p>The ’136 Patent further admits that “TWAIN software often used to control image capture from a computer” was known. ’136 Patent at 4:66-5:1.</p> <p>The ’136 Patent further admits that financial institutions’ maintenance of a server for the purposes of communicating with customers, or the maintenance and operation of such a server by a third party vendor, were “arrangements [that] are well known in the industry,” ’136 Patent at 5:17-27.</p> <p>The ’136 Patent further admits that “[a] variety of technologies are available to establish secure connections over [] a public network.” ’136 Patent at 5:47-53.</p> <p>The ’136 Patent further admits that “[u]nder the current check handling procedures in the United States, the physical check is not necessary in processing a deposit, nor</p>

Patent	Admissions by USAA
	<p>is it necessary to keep the original check in bank or customer records.” ’136 Patent at 9:6-12.</p> <p>The ’136 Patent further admits that “Check 21 regulations require a bi-tonal TIFF formatted image.” ’136 Patent at 10:63-67.</p> <p>The ’136 Patent further admits that ACH transactions were known and that such “typically include payment instructions to debit and/or credit an account,” that “[b]anks often employ ACH service providers to settle ACH transactions, and that “[e]xamples of ACH service providers include regional branches of the Federal Reserve and the Electronic Payments Network (EPN).” ’136 Patent at 11:24-31.</p> <p>The ’136 Patent further admits that “[s]ubstitute checks were authorized under The Check Clearing for the 21st Century Act, commonly known as Check 21. The Act was enacted to facilitate the check clearing process by allowing banks to transmit electronic images of checks (e.g., substitute checks) to other banks rather than physically sending the original paper checks.” ’136 Patent at 11:46-61.</p> <p>The ’136 Patent further admits that “identification information such as an image capture device Global Unique Identifier (GUID)” was known in the art and also that the “identification of software associated with the device, for example the familiar TWAIN drivers that can be used with scanners, digital cameras, and other image capture devices” was known in the art. ’136 Patent at 13:1-6.</p>
605	<p>The ’605 Patent admits in its Background section that (i) the problems associated with the inconvenience of having to travel to a bank location to physically present the check for deposit, and (ii) the problems associated with an payee not having access to funds until the payee deposits the check and the check has cleared were known in the art and part of the background of the claimed invention, and that “there is a need for a convenient method of remotely depositing a check while enabling the payee to quickly access the funds from the check” ’605 Patent at 1:49-2:9 (Background)</p> <p>The ’605 Patent further admits that “[g]eneral purpose computers are ubiquitous today,” and that such may be “in a desktop or laptop configuration, and generally has the ability to run any number of applications that are written for and compatible with the computer’s operating system,” including “well-known WINDOWS® brand operating systems made by MICROSOFT® Corp., or a MACINTOSH® (Mac) brand computer, running any of the APPLE® operating systems.” ’605 Patent at 3:59-4:1</p> <p>The ’605 Patent further admits that internet browsers were known in the art and “[c]ommon browsers in use today are, for example, the popular INTERNET EXPLORER® line of browsers made by MICROSOFT® Corp., the FIREFOX®</p>

Patent	Admissions by USAA
	<p>browsers distributed via the MOZILLA® open source project, and the NETSCAPE NAVIGATOR® browsers also distributed via the MOZILLA® open source project.” ’605 Patent at 5:59-66.</p> <p>The ’605 Patent further admits that the operation of browsers including URLs, web-page retrieval and web page display were “generally known and appreciated in the industry and by the general public.” ’605 Patent at 5:66-6:7.</p> <p>The ’605 Patent further admits that “virtual machine” technologies, “such as the JAVA® virtual machine software distributed by SUN MICROSYSTEMS® Corp, and .NET® Framework distributed by MICROSOFT® Corp.” and the ability of such virtual machines to facilitate execution of computer programs in a variety of computing environments to were known in the art. ’605 Patent at 6:8-26.</p> <p>The ’605 Patent further admits that “TWAIN software often used to control image capture from a computer” was known. ’605 Patent at 6:32-35.</p> <p>The ’605 Patent further admits that financial institutions’ maintenance of a server for the purposes of communicating with customers, or the maintenance and operation of such a server by a third party vendor, were “arrangements [that] are well known in the industry,” ’605 Patent at 7:1-11.</p> <p>The ’605 Patent further admits that “[a] variety of technologies are available to establish secure connections over [] a public network.” ’605 Patent at 7:36-42.</p> <p>The ’605 Patent further admits that Check 21 regulations require a bi-tonal TIFF formatted image. ’605 Patent at 12:28-29.</p>
681	<p>The ’681 Patent admits in its Background section that (i) the problems associated with the inconvenience of having to travel to a bank location to physically present the check for deposit, and (ii) the problems associated with an payee not having access to funds until the payee deposits the check and the check has cleared were known in the art and part of the background of the claimed invention, and that “there is a need for a convenient method of remotely depositing a check while enabling the payee to quickly access the funds from the check” ’681 Patent at 1:50-2:10 (Background)</p> <p>The ’681 Patent further admits that “[g]eneral purpose computers are ubiquitous today,” and that such may be “in a desktop or laptop configuration, and generally has the ability to run any number of applications that are written for and compatible with the computer’s operating system,” including “well-known WINDOWS® brand operating systems made by MICROSOFT® Corp., or a MACINTOSH® (Mac) brand computer, running any of the APPLE® operating systems.” ’681 Patent at 3:30-40.</p>

Patent	Admissions by USAA
	<p>The '681 Patent further admits that internet browsers were known in the art and “[c]ommon browsers in use today are, for example, the popular INTERNET EXPLORER® line of browsers made by MICROSOFT® Corp., the FIREFOX® browsers distributed via the MOZILLA® open source project, and the NETSCAPE NAVIGATOR® browsers also distributed via the MOZILLA® open source project.” ’681 Patent at 4:5-12.</p> <p>The '681 Patent further admits that the operation of browsers including URLs, web-page retrieval and web page display were “generally known and appreciated in the industry and by the general public.” ’681 Patent at 4:12-18.</p> <p>The '681 Patent further admits that “virtual machine” technologies, “such as the JAVA® virtual machine software distributed by SUN MICROSYSTEMS® Corp, and .NET® Framework distributed by MICROSOFT® Corp.” and the ability of such virtual machines to facilitate execution of computer programs in a variety of computing environments to were known in the art. ’681 Patent at 4:19-36.</p> <p>The '681 Patent further admits that “TWAIN software often used to control image capture from a computer” was known. ’681 Patent at 4:42-45.</p> <p>The '681 Patent further admits that financial institutions’ maintenance of a server for the purposes of communicating with customers, or the maintenance and operation of such a server by a third party vendor, were “arrangements [that] are well known in the industry,” ’681 Patent at 4:60-5:3.</p> <p>The '681 Patent further admits that “[a] variety of technologies are available to establish secure connections over [] a public network.” ’681 Patent at 5:23-29.</p> <p>The '681 Patent further admits that “[u]nder the current check handling procedures in the United States, the physical check is not necessary in processing a deposit, nor is it necessary to keep the original check in bank or customer records.” ’681 Patent at 8:56-59.</p> <p>The '681 Patent further admits that “Check 21 regulations require a bi-tonal TIFF formatted image.” ’681 Patent at 10:47-50.</p> <p>The '681 Patent further admits that ACH transactions were known and that such “typically include payment instructions to debit and/or credit an account,” that “[b]anks often employ ACH service providers to settle ACH transactions, and that “[e]xamples of ACH service providers include regional branches of the Federal Reserve and the Electronic Payments Network (EPN).” ’681 Patent at 11:9-16.</p> <p>The '681 Patent further admits that “[s]ubstitute checks were authorized under The Check Clearing for the 21st Century Act, commonly known as Check 21. The Act</p>

Patent	Admissions by USAA
	<p>was enacted to facilitate the check clearing process by allowing banks to transmit electronic images of checks (e.g., substitute checks) to other banks rather than physically sending the original paper checks.” ’681 Patent at 11:32-47.</p> <p>The ’681 Patent further admits that “identification information such as an image capture device Global Unique Identifier (GUID)” was known in the art and also that the “identification of software associated with the device, for example the familiar TWAIN drivers that can be used with scanners, digital cameras, and other image capture devices” was known in the art. ’681 Patent at 12:56-61.</p>

E. The Applicants’ Own Prior Patent and Published Applications

As noted, no Asserted Claim of any Asserted Patent is entitled to be backdated before the actual filing date of the application that issued as that patent. Accordingly, USAA’s patents filed prior to the filing of each Asserted Patent, and the related file histories, thus qualify as Sec. 102(b) and/or 102(d) prior art, and state of the art—including, but not limited to the following for each Asserted Patent:

Patent	USAA Own Prior Patents and Published Applications
’332 (filed Dec. 8, 2010)	U.S. Patent 8,290,237 (filed Oct. 31, 2007) U.S. Patent 8,351,677 (filed Oct. 31, 2006) U.S. Patent 8,538,124 (filed May 10, 2007) U.S. Patent 8,542,921 (filed Jul. 27, 2009) U.S. Patent 8,699,779 (filed Aug. 28, 2009) U.S. Patent 8,708,227 (filed Oct. 31, 2006) U.S. Patent 8,977,571 (filed Aug. 21, 2009)
’136 (filed Mar. 20, 2014)	U.S. Patent 8,290,237 (filed Oct. 31, 2007) U.S. Patent 8,351,677 (filed Oct. 31, 2006) U.S. Patent 8,392,332 (filed Dec. 8, 2010) U.S. Patent 8,538,124 (filed May 10, 2007) U.S. Patent 8,542,921 (filed Jul. 27, 2009) U.S. Patent 8,699,779 (filed Aug. 28, 2009) U.S. Patent 8,708,227 (filed Oct. 31, 2006) U.S. Patent 8,977,571 (filed Aug. 21, 2009) U.S. Patent 9,569,756 (filed Jun. 20, 2013) U.S. Patent 9,779,392 (filed Aug. 19, 2010)

Patent	USAA Own Prior Patents and Published Applications
'605 (filed Jul. 28, 2017)	U.S. Patent 8,290,237 (filed Oct. 31, 2007) U.S. Patent 8,351,677 (filed Oct. 31, 2006) U.S. Patent 8,392,332 (filed Dec. 8, 2010) U.S. Patent 8,538,124 (filed May 10, 2007) U.S. Patent 8,542,921 (filed Jul. 27, 2009) U.S. Patent 8,699,779 (filed Aug. 28, 2009) U.S. Patent 8,708,227 (filed Oct. 31, 2006) U.S. Patent 8,977,571 (filed Aug. 21, 2009) U.S. Patent 9,224,136 (filed Mar. 20, 2014) U.S. Patent 9,336,517 (filed Oct. 16, 2014) U.S. Patent 9,569,756 (filed Jun. 20, 2013) U.S. Patent 9,779,392 (filed Aug. 19, 2010) U.S. Patent 9,818,090 (filed Dec. 28, 2016)
'681 (filed Jul. 28, 2017)	U.S. Patent 8,290,237 (filed Oct. 31, 2007) U.S. Patent 8,351,677 (filed Oct. 31, 2006) U.S. Patent 8,392,332 (filed Dec. 8, 2010) U.S. Patent 8,538,124 (filed May 10, 2007) U.S. Patent 8,542,921 (filed Jul. 27, 2009) U.S. Patent 8,699,779 (filed Aug. 28, 2009) U.S. Patent 8,708,227 (filed Oct. 31, 2006) U.S. Patent 8,977,571 (filed Aug. 21, 2009) U.S. Patent 9,224,136 (filed Mar. 20, 2014) U.S. Patent 9,336,517 (filed Oct. 16, 2014) U.S. Patent 9,569,756 (filed Jun. 20, 2013) U.S. Patent 9,779,392 (filed Aug. 19, 2010) U.S. Patent 9,818,090 (filed Dec. 28, 2016)

These and all other prior art references include all materials incorporated by reference into the reference.

III. PRIOR ART CLAIM CHARTS

Pursuant to Patent Rule 3-3(c), the claim charts attached hereto as Exhibits A1-E79 identify specifically where each limitation of each claim is found in each prior art reference. Wells Fargo expressly reserves the right to supplement or amend these Invalidity Contentions pursuant to Patent Rule 3-6 after the Court's *Markman* ruling or if USAA is permitted to amend or alter its infringement contentions or its position on claim construction in any way. Further, to the extent

that Wells Fargo applies USAA's constructions (and to the extent these constructions can be discerned), Wells Fargo does not concede in any way that those constructions are correct, and instead expressly reserves the right to oppose those constructions at the appropriate time specified in the Court's Docket Control Order.

In the Invalidity Charts, Wells Fargo has referred to relevant, representative portions of the cited prior art. The absence of any specific or express reference to any claim term or claim element in these charts should not be construed as an admission that any corresponding limitation is lacking either expressly or inherently in the prior art reference. There may be additional support or other grounds for Wells Fargo's Invalidity Contentions that such prior art satisfies a particular claim element, and Wells Fargo reserves the right to supplement these Invalidity Contentions with such information. For example, persons of ordinary skill in the art at the time of the filing of the Asserted Patents knew to read prior art references as a whole, and in the context of other publications and literature and the general knowledge in the field. Wells Fargo may rely on all such information, including uncited portions of the prior art references listed herein, and on other publications and expert testimony, to provide context and as aids to understanding and interpreting the listed references, or to establish that a person of ordinary skill in the art would have been motivated to modify or combine any of the cited references so as to render the claims obvious. Additionally, citations to a particular figure in a prior art reference encompass all text relating to the figure, and citations to text encompass all figures relating to or referred to by that text.

Moreover, many of the prior art systems and apparatuses were sold prior to the earliest asserted priority dates and documentation regarding these prior art systems is not in the possession, custody, or control of Wells Fargo. Instead, these documents are currently or will be the subject of third-party discovery, including the subpoenas identified in Section II.C. Wells Fargo expressly

reserves the right to supplement its Invalidity Contentions to include further information obtained in discovery.

IV. PRIOR ART UNDER 35 U.S.C. § 102 THAT ANTICIPATES THE ASSERTED CLAIMS OF THE ASSERTED PATENTS

The prior art listed above anticipates the Asserted Claims of the Asserted Patents either expressly or inherently as understood by a person having ordinary skill in the art. The specific anticipation assertions with respect to each claim are set forth in the accompanying claim charts, which are attached as Exhibits A1-E79.

Exhibit No.	Chart
A1	332 Patent vs. Acharya WO436
A2	332 Patent vs. Ballard '137
A3	332 Patent vs. Beck '312
A4	332 Patent vs. Brooks '673
A5	332 Patent vs. Buchanan '106
A6	332 Patent vs. Buchanan '516 App
A7	332 Patent vs. Byrne '935
A8	332 Patent vs. Cahill '377
A9	332 Patent vs. Carpenter '896 App
A10	332 Patent vs. Carreon '941 App
A11	332 Patent vs. Cazalbou WO852
A12	332 Patent vs. CheqIt Article
A13	332 Patent vs. Cowburn '983
A14	332 Patent vs. Creamer '790
A15	332 Patent vs. DeJesus Article
A16	332 Patent vs. Dong KR895
A17	332 Patent vs. Dutta '164 App

Exhibit No.	Chart
A18	332 Patent vs. Dutta '166 App
A19	332 Patent vs. Dzuba Article
A20	332 Patent vs. Eccho Article
A21	332 Patent vs. EFT Network Article
A22	332 Patent vs. Felsenfeld Article
A23	332 Patent vs. Foth '642 App
A24	332 Patent vs. Fujita JPH174
A25	332 Patent vs. Geer '778
A26	332 Patent vs. Gilder '588
A27	332 Patent vs. Goodall '934
A28	332 Patent vs. Graham '218 App
A29	332 Patent vs. Gustin '193 App
A30	332 Patent vs. Haas '024 App
A31	332 Patent vs. Hayosh '553
A32	332 Patent vs. Heit '480
A33	332 Patent vs. Heit '762
A34	332 Patent vs. Heit '896 App
A35	332 Patent vs. Heit '975
A36	332 Patent vs. Hludzinski '909
A37	332 Patent vs. HSBC Article
A38	332 Patent vs. IPS Manual
A39	332 Patent vs. Jain Article
A40	332 Patent vs. Jones '828
A41	332 Patent vs. Koerich Article
A42	332 Patent vs. Lam Article

Exhibit No.	Chart
A43	332 Patent vs. Lange Presentation
A44	332 Patent vs. Latimer '191 App
A45	332 Patent vs. Leekley '987 App
A46	332 Patent vs. Leekley Article
A47	332 Patent vs. Lindemann '536
A48	332 Patent vs. Liu Article
A49	332 Patent vs. Messenger CA605
A50	332 Patent vs. Millford '246
A51	332 Patent vs. Nakamura JPH497
A52	332 Patent vs. Nova Article
A53	332 Patent vs. Odom 884'
A54	332 Patent vs. Ono JP602
A55	332 Patent vs. Owens EP507
A56	332 Patent vs. Page '134
A57	332 Patent vs. Peterson '063 App
A58	332 Patent vs. Pidhirny '519
A59	332 Patent vs. Ramachandran '313
A60	332 Patent vs. Ramachandran '389 App
A61	332 Patent vs. Ramachandran '716 App
A62	332 Patent vs. Reid '342 App
A63	332 Patent vs. Reid '665 App
A64	332 Patent vs. Shah '273
A65	332 Patent vs. Singfield '046 App
A66	332 Patent vs. Slater EP410
A67	332 Patent vs. Stinson '056

Exhibit No.	Chart
A68	332 Patent vs. Tang Article
A69	332 Patent vs. TellerScan 230 Article
A70	332 Patent vs. von Kapff Presentation
A71	332 Patent vs. Wang Thesis
A72	332 Patent vs. Warren '485
A73	332 Patent vs. Watanabe '171
A74	332 Patent vs. Wells Fargo Desktop Deposit
A75	332 Patent vs. Wilk '991
A76	332 Patent vs. X9.37-2003
A77	332 Patent vs. X9.100-140
A78	332 Patent vs. X9.100-180
B1	227 Patent vs. Acharya WO436
B2	227 Patent vs. Ballard '137
B3	227 Patent vs. Beck '312
B4	227 Patent vs. Brooks '673
B5	227 Patent vs. Buchanan '106
B6	227 Patent vs. Buchanan '516 App
B7	227 Patent vs. Byrne '935
B8	227 Patent vs. Cahill '377
B9	227 Patent vs. Carpenter '896 App
B10	227 Patent vs. Carreon '941 App
B11	227 Patent vs. Cazalbou WO852
B12	227 Patent vs. CheqIt Article
B13	227 Patent vs. Cowburn '983

Exhibit No.	Chart
B14	227 Patent vs. Creamer '790
B15	227 Patent vs. DeJesus Article
B16	227 Patent vs. Dong KR895
B17	227 Patent vs. Dutta '164 App
B18	227 Patent vs. Dutta '166 App
B19	227 Patent vs. Dzuba Article
B20	227 Patent vs. Eccho Article
B21	227 Patent vs. EFT Network Article
B22	227 Patent vs. Felsenfeld Article
B23	227 Patent vs. Foth '642 App
B24	227 Patent vs. Franck WO913
B25	227 Patent vs. Fujita JPH174
B26	227 Patent vs. Geer '778
B27	227 Patent vs. Gilder '588
B28	227 Patent vs. Goodall '934
B29	227 Patent vs. Graham '218 App
B30	227 Patent vs. Gustin '193 App
B31	227 Patent vs. Haas '024 App
B32	227 Patent vs. Hayosh '553
B33	227 Patent vs. Heit '480
B34	227 Patent vs. Heit '762
B35	227 Patent vs. Heit '896 App
B36	227 Patent vs. Heit '975
B37	227 Patent vs. Hludzinski '909
B38	227 Patent vs. HSBC Article

Exhibit No.	Chart
B39	227 Patent vs. IPS Manual
B40	227 Patent vs. Jain Article
B41	227 Patent vs. Jones '828
B42	227 Patent vs. Koerich Article
B43	227 Patent vs. Lam Article
B44	227 Patent vs. Lange Presentation
B45	227 Patent vs. Latimer '191 App
B46	227 Patent vs. Leekley '987 App
B47	227 Patent vs. Leekley Article
B48	227 Patent vs. Lindemann '536
B49	227 Patent vs. Liu Article
B50	227 Patent vs. Messenger CA605
B51	227 Patent vs. Millford '246
B52	227 Patent vs. Nakamura JPH497
B53	227 Patent vs. Nova Article
B54	227 Patent vs. Odom 884'
B55	227 Patent vs. Ono JP602
B56	227 Patent vs. Owens EP507
B57	227 Patent vs. Page '134
B58	227 Patent vs. Peterson '063 App
B59	227 Patent vs. Pidhirny '519
B60	227 Patent vs. Ramachandran '313
B61	227 Patent vs. Ramachandran '389 App
B62	227 Patent vs. Ramachandran '716 App
B63	227 Patent vs. Reid '342 App

Exhibit No.	Chart
B64	227 Patent vs. Reid '665 App
B65	227 Patent vs. Shah '273
B66	227 Patent vs. Singfield '046 App
B67	227 Patent vs. Slater EP410
B68	227 Patent vs. Stinson '056
B69	227 Patent vs. Tang Article
B70	227 Patent vs. TellerScan 230 Article
B71	227 Patent vs. von Kapff Presentation
B72	227 Patent vs. Wang Thesis
B73	227 Patent vs. Warren '485
B74	227 Patent vs. Watanabe '171
B75	227 Patent vs. Weitman '196 App
B76	227 Patent vs. Wells Fargo Desktop Deposit
B77	227 Patent vs. Wilk '991
B78	227 Patent vs. X9.37-2003
B79	227 Patent vs. X9.100-140
B80	227 Patent vs. X9.100-180
C1	136 Patent vs. Acharya WO436
C2	136 Patent vs. Ballard '137
C3	136 Patent vs. Beck '312
C4	136 Patent vs. Brooks '673
C5	136 Patent vs. Buchanan '106
C6	136 Patent vs. Buchanan '516 App
C7	136 Patent vs. Byrne '935

Exhibit No.	Chart
C8	136 Patent vs. Cahill '377
C9	136 Patent vs. Carpenter '896 App
C10	136 Patent vs. Carreon '941 App
C11	136 Patent vs. Cazalbou WO852
C12	136 Patent vs. CheqIt Article
C13	136 Patent vs. Cowburn '983
C14	136 Patent vs. DeJesus Article
C15	136 Patent vs. Dong KR895
C16	136 Patent vs. Dutta '164 App
C17	136 Patent vs. Dutta '166 App
C18	136 Patent vs. Dzuba Article
C19	136 Patent vs. Eccho Article
C20	136 Patent vs. EFT Network Article
C21	136 Patent vs. Felsenfeld Article
C22	136 Patent vs. Foth '642 App
C23	136 Patent vs. Fujita JPH174
C24	136 Patent vs. Geer '778
C25	136 Patent vs. Gilder '588
C26	136 Patent vs. Goodall '934
C27	136 Patent vs. Graham '218 App
C28	136 Patent vs. Gustin '193 App
C29	136 Patent vs. Haas '024 App
C30	136 Patent vs. Hayosh '553
C31	136 Patent vs. Heit '480
C32	136 Patent vs. Heit '762

Exhibit No.	Chart
C33	136 Patent vs. Heit '896 App
C34	136 Patent vs. Heit '975
C35	136 Patent vs. Higashiyama '682
C36	136 Patent vs. Hludzinski '909
C37	136 Patent vs. HSBC Article
C38	136 Patent vs. IPS Manual
C39	136 Patent vs. Jain Article
C40	136 Patent vs. Jones '828
C41	136 Patent vs. Koerich Article
C42	136 Patent vs. Lam Article
C43	136 Patent vs. Lange Presentation
C44	136 Patent vs. Latimer '191 App
C45	136 Patent vs. Leekley '987 App
C46	136 Patent vs. Leekley Article
C47	136 Patent vs. Lindemann '536
C48	136 Patent vs. Liu Article
C49	136 Patent vs. Messenger CA605
C50	136 Patent vs. Millford '246
C51	136 Patent vs. Nakamura JPH497
C52	136 Patent vs. Nova Article
C53	136 Patent vs. Odom 884'
C54	136 Patent vs. Ono JP602
C55	136 Patent vs. Owens EP507
C56	136 Patent vs. Page '134
C57	136 Patent vs. Peterson '063 App

Exhibit No.	Chart
C58	136 Patent vs. Pidhirny '519
C59	136 Patent vs. Ramachandran '313
C60	136 Patent vs. Ramachandran '389 App
C61	136 Patent vs. Ramachandran '716 App
C62	136 Patent vs. Reid '342 App
C63	136 Patent vs. Reid '665 App
C64	136 Patent vs. Shah '273
C65	136 Patent vs. Singfield '046 App
C66	136 Patent vs. Slater EP410
C67	136 Patent vs. Stinson '056
C68	136 Patent vs. TellerScan 230 Article
C69	136 Patent vs. von Kapff Presentation
C70	136 Patent vs. Wang Thesis
C71	136 Patent vs. Warren '485
C72	136 Patent vs. Watanabe '171
C73	136 Patent vs. Wells Fargo Desktop Deposit
C74	136 Patent vs. Wilk '991
C75	136 Patent vs. X9.37-2003
C76	136 Patent vs. X9.100-140
C77	136 Patent vs. X9.100-180
D1	605 Patent vs. Acharya WO436
D2	605 Patent vs. Ballard '137
D3	605 Patent vs. Beck '312
D4	605 Patent vs. Brooks '673

Exhibit No.	Chart
D5	605 Patent vs. Buchanan '106
D6	605 Patent vs. Buchanan '516 App
D7	605 Patent vs. Byrne '935
D8	605 Patent vs. Cahill '377
D9	605 Patent vs. Carpenter '896 App
D10	605 Patent vs. Carreon '941 App
D11	605 Patent vs. Cazalbou WO852
D12	605 Patent vs. CheqIt Article
D13	605 Patent vs. Claycomb Article
D14	605 Patent vs. Cowburn '983
D15	605 Patent vs. Creamer '790
D16	605 Patent vs. DeJesus Article
D17	605 Patent vs. Dong KR895
D18	605 Patent vs. Dutta '164 App
D19	605 Patent vs. Dutta '166 App
D20	605 Patent vs. Dzuba Article
D21	605 Patent vs. Eccho Article
D22	605 Patent vs. EFT Network Article
D23	605 Patent vs. Felsenfeld Article
D24	605 Patent vs. Foth '642 App
D25	605 Patent vs. Franck WO913
D26	605 Patent vs. Fujita JPH174
D27	605 Patent vs. Geer '778
D28	605 Patent vs. Gilder '588
D29	605 Patent vs. Goodall '934

Exhibit No.	Chart
D30	605 Patent vs. Graham '218 App
D31	605 Patent vs. Gustin '193 App
D32	605 Patent vs. Haas '024 App
D33	605 Patent vs. Hayosh '553
D34	605 Patent vs. Heit '480
D35	605 Patent vs. Heit '762
D36	605 Patent vs. Heit '896 App
D37	605 Patent vs. Heit '975
D38	605 Patent vs. Hludzinski '909
D39	605 Patent vs. HSBC Article
D40	605 Patent vs. IPS Manual
D41	605 Patent vs. Jain Article
D42	605 Patent vs. Jones '828
D43	605 Patent vs. Koerich Article
D44	605 Patent vs. Lam Article
D45	605 Patent vs. Lange Presentation
D46	605 Patent vs. Latimer '191 App
D47	605 Patent vs. Leekley '987 App
D48	605 Patent vs. Leekley Article
D49	605 Patent vs. Lindemann '536
D50	605 Patent vs. Liu Article
D51	605 Patent vs. Messenger CA605
D52	605 Patent vs. Millford '246
D53	605 Patent vs. Nakamura JPH497
D54	605 Patent vs. Nova Article

Exhibit No.	Chart
D55	605 Patent vs. Odom 884'
D56	605 Patent vs. Ono JP602
D57	605 Patent vs. Owens EP507
D58	605 Patent vs. Page '134
D59	605 Patent vs. Peterson '063 App
D60	605 Patent vs. Pidhirny '519
D61	605 Patent vs. Ramachandran '313
D62	605 Patent vs. Ramachandran '389 App
D63	605 Patent vs. Ramachandran '716 App
D64	605 Patent vs. Reid '342 App
D65	605 Patent vs. Reid '665 App
D66	605 Patent vs. Shah '273
D67	605 Patent vs. Singfield '046 App
D68	605 Patent vs. Slater EP410
D69	605 Patent vs. Stinson '056
D70	605 Patent vs. Tang Article
D71	605 Patent vs. TellerScan 230 Article
D72	605 Patent vs. von Kapff Presentation
D73	605 Patent vs. Wang Thesis
D74	605 Patent vs. Warren '485
D75	605 Patent vs. Watanabe '171
D76	605 Patent vs. Wells Fargo Desktop Deposit
D77	605 Patent vs. Wilk '991
D78	605 Patent vs. X9.37-2003
D79	605 Patent vs. X9.100-140

Exhibit No.	Chart
D80	605 Patent vs. X9.100-180
E1	681 Patent vs. Acharya WO436
E2	681 Patent vs. Ballard '137
E3	681 Patent vs. Beck '312
E4	681 Patent vs. Brooks '673
E5	681 Patent vs. Buchanan '106
E6	681 Patent vs. Buchanan '516 App
E7	681 Patent vs. Byrne '935
E8	681 Patent vs. Cahill '377
E9	681 Patent vs. Carpenter '896 App
E10	681 Patent vs. Carreon '941 App
E11	681 Patent vs. Cazalbou WO852
E12	681 Patent vs. CheqIt Article
E13	681 Patent vs. Claycomb Article
E14	681 Patent vs. Cowburn '983
E15	681 Patent vs. Creamer '790
E16	681 Patent vs. DeJesus Article
E17	681 Patent vs. Dong KR895
E18	681 Patent vs. Dutta '164 App
E19	681 Patent vs. Dutta '166 App
E20	681 Patent vs. Dzuba Article
E21	681 Patent vs. Eccho Article
E22	681 Patent vs. EFT Network Article
E23	681 Patent vs. Felsenfeld Article

Exhibit No.	Chart
E24	681 Patent vs. Foth '642 App
E25	681 Patent vs. Fujita JPH174
E26	681 Patent vs. Geer '778
E27	681 Patent vs. Gilder '588
E28	681 Patent vs. Goodall '934
E29	681 Patent vs. Graham '218 App
E30	681 Patent vs. Gustin '193 App
E31	681 Patent vs. Haas '024 App
E32	681 Patent vs. Hayosh '553
E33	681 Patent vs. Heit '480
E34	681 Patent vs. Heit '762
E35	681 Patent vs. Heit '896 App
E36	681 Patent vs. Heit '975
E37	681 Patent vs. Hludzinski '909
E38	681 Patent vs. HSBC Article
E39	681 Patent vs. IPS Manual
E40	681 Patent vs. Jain Article
E41	681 Patent vs. Jones '828
E42	681 Patent vs. Koerich Article
E43	681 Patent vs. Lam Article
E44	681 Patent vs. Lange Presentation
E45	681 Patent vs. Latimer '191 App
E46	681 Patent vs. Leekley '987 App
E47	681 Patent vs. Leekley Article
E48	681 Patent vs. Lindemann '536

Exhibit No.	Chart
E49	681 Patent vs. Liu Article
E50	681 Patent vs. Messenger CA605
E51	681 Patent vs. Millford '246
E52	681 Patent vs. Nakamura JPH497
E53	681 Patent vs. Nova Article
E54	681 Patent vs. Odom 884'
E55	681 Patent vs. Ono JP602
E56	681 Patent vs. Owens EP507
E57	681 Patent vs. Page '134
E58	681 Patent vs. Peterson '063 App
E59	681 Patent vs. Pidhirny '519
E60	681 Patent vs. Ramachandran '313
E61	681 Patent vs. Ramachandran '389 App
E62	681 Patent vs. Ramachandran '716 App
E63	681 Patent vs. Reid '342 App
E64	681 Patent vs. Reid '665 App
E65	681 Patent vs. Shah '273
E66	681 Patent vs. Singfield '046 App
E67	681 Patent vs. Slater EP410
E68	681 Patent vs. Stinson '056
E69	681 Patent vs. Tang Article
E70	681 Patent vs. TellerScan 230 Article
E71	681 Patent vs. von Kapff Presentation
E72	681 Patent vs. Wang Thesis
E73	681 Patent vs. Warren '485

Exhibit No.	Chart
E74	681 Patent vs. Watanabe '171
E75	681 Patent vs. Wells Fargo Desktop Deposit
E76	681 Patent vs. Wilk '991
E77	681 Patent vs. X9.37-2003
E78	681 Patent vs. X9.100-140
E79	681 Patent vs. X9.100-180

Wells Fargo has endeavored to identify the most relevant portions of identified references. The references may contain additional support, however, for a particular claim element. Wells Fargo may rely on uncited portions of the prior art references and/or other publications and fact or expert testimony to provide context and as aids to understanding and interpreting the portions that are cited. In instances of cumulative disclosure within a particular prior art reference, Wells Fargo may have cited a subset of those instances as opposed to citing each instance, and Wells Fargo reserves the right to rely on uncited instances of cumulative disclosure. Where Wells Fargo cites to a particular figure in a reference, the citation should be understood to encompass the caption and description of the figure and any text relating to or discussing the figure. Conversely, where Wells Fargo cites to particular text referring to a figure, the citation should be understood to include the figure as well.

The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied on to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Wells Fargo's anticipation contentions and are not to be construed to suggest that any reference included in any combination is not by itself anticipatory. Also, the suggested obviousness

combinations are provided as examples, and it should be understood that other combinations of the prior art disclosed and cited herein could be used in such combinations.

V. PRIOR ART UNDER 35 U.S.C. § 103 THAT RENDERES OBVIOUS THE ASSERTED CLAIMS OF THE ASSERTED PATENTS

To the extent that the Asserted Claims are not rendered invalid purely on anticipatory grounds or are not obvious in light of the general knowledge in the field and of one skilled in the art, the prior art references render obvious the Asserted Claims as discussed in detail below or in the combinations suggested in attached Exhibit F. These combinations are not exclusive, and Wells Fargo reserves the right to supplement the obviousness arguments listed below, using any references listed above in Section II and any references that may become known to the Wells Fargo during the course of discovery. Further, the suggested obviousness combinations are in addition to Wells Fargo's anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not anticipatory on its own.

VI. MOTIVATION FOR COMBINING IDENTIFIED PRIOR ART

Pursuant to Local Patent Rule 3-3, Wells Fargo has included this section discussing motivation to combine. The Supreme Court, however, has rejected the idea that a "teaching, suggestion, or motivation to combine" is a prerequisite for proving obviousness. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739-40 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, and instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of

ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 1742.

Subject to the reservation of rights based on Wells Fargo’s present understanding of the Asserted Claims of the Asserted Patents, and the apparent constructions USAA is asserting based on its Infringement Contentions, the prior art references identified above in Section II, which are charted in Exhibits A1-E79, each anticipate and/or individually render obvious the Asserted Claims of the Asserted Patents.

Should any individual prior art reference be deemed not to disclose, explicitly or inherently, any limitation of a claim, Wells Fargo contends in the alternative that such individual prior art references can be combined in the manner suggested in Exhibit F. These combinations are not exclusive, and Wells Fargo reserves the right to supplement the obviousness arguments listed below, using any references listed above in Section II and any references that may become known to the Wells Fargo during the course of discovery.

The United States Supreme Court clarified the standard for what types of inventions are patentable. *KSR Int’l*, 127 S. Ct. 1727. In particular, the Supreme Court emphasized that inventions arising from ordinary innovation, ordinary skill, or common sense should not be patentable. *Id.* at 1732, 1738, 1742-1743, 1746. In that regard, a patent claim may be obvious if the combination of elements was obvious to try or there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent’s claims. In addition, when a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, Section 103 bars its patentability. To that end, for the purposes of these Invalidity Contentions and this Section, the knowledge of a person of ordinary skill in the

art is demonstrated by the full list of references in Section II and all prior art produced pursuant to Patent Rule 3-4(b).

“[T]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 1731. Because the Asserted Patents simply arrange old elements—e.g., existing and well-known methods for electronic check processing and existing and well-known software (including OCR and MICR detection software) and hardware (including personal computers, scanners, and cameras)—with each performing the same function it had been known to perform and yields no more than what one would expect from such an arrangement, the combination is obvious. *Id.* at 1742. The Asserted Claims are therefore invalid under 35 U.S.C. § 103 because they do nothing more than combine known techniques and apparatuses according to their known and ordinary uses to yield predictable results.

The Supreme Court further held that, “[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill” *Id.* at 1740. Accordingly, a person of ordinary skill in the art at the time of the alleged invention would have been motivated to combine or adapt known or familiar methods in the art, especially where market forces prompt such variations. Here, market forces demanded implementation of remote check imaging and deposit systems following passage of Check 21 (12 U.S.C. § 5001 *et seq.*) and the rapid adoption of personal computers, digital camera, and scanners into society well before October 2006. Thus one of skill in the art would have thought to combine or modify references

that described known methods of remote check capture and processing that one of skill in the art would have recognized as offering improvements to solutions of that time. The references in Exhibit F further describe methods that were known to offer such improvements in remote check capture and processing, and, accordingly, one of skill in the art would have been motivated to combine or modify the references as indicated in Exhibit F.

Moreover, since there was a finite number of predictable solutions, a person of ordinary skill in the art had good reason to pursue the known options. *Id.* The combination references in Exhibit F use familiar elements for their primary or well-known purposes in a manner well within the ordinary level of skill in the art. Accordingly, common sense and the knowledge of the prior art render the claims invalid under either Section 102 or Section 103. For example, common sense and knowledge of the prior art would suggest to person of ordinary skill in the art that remote check processing systems should meet the requisite ANSI standards known at the time governing check processing. For example, common sense and knowledge of the prior art would suggest to person of ordinary skill in the art that remote check processing systems should also provide instruction to the user and capture/log information about the systems/hardware doing capturing the check image. Thus common sense would have motivated a person of ordinary skill in the art to combine existing check processing systems and remote check processing systems in the manner allegedly taught by the Asserted Patents. Such systems would include remote systems for capturing and processing checks in accordance with the relevant ANSI standards. Such systems would also include server side systems well-known in the industry following the passage of Check 21 for evaluating or otherwise processing check images.

A person of ordinary skill would have been motivated to combine the above prior art based on his/her knowledge, the nature of the problem to be solved, and the teachings of the prior art.

The references in Exhibit F address the same or similar technical issues and suggests the same or similar solutions to those issues. Moreover, some of the prior art refer to or discuss other prior art, illustrating the close technical relationship among the prior art.

By way of further example, the references listed in Exhibit F are directed to the same or similar technology—namely, check processing. Thus, for example, one of ordinary skill in the art would have been motivated to combine known prior art solutions described in these references relating to remote check processing.

Moreover, as detailed below, many of the claim elements were already known as admitted by USAA in the specifications of the Asserted Patents (*see* Section II.D above). These elements represented design choices available to a person of ordinary skill. When there is a design need or market pressure to solve a problem such as identified previously and/or described in the Asserted Patents, and there are a finite number of identified, predictable solutions, a person of ordinary skill would be motivated to combine the known options that are within his or her technical grasp. Here, one of ordinary skill in the art would have been motivated to combine known prior art solutions, including those in the combination references and those admitted by USAA to be known.

For each of the various “systems” or “products” that were charted under Section II.C, to the extent that the collective references referenced in Section II.C are not considered to be the same reference for purposes of invalidity under 35 U.S.C. § 102, it would have been obvious to combine the references cited. For each such product/system, all of the listed references relate to the same technology and variations thereof. One of skill in the art would have been motivated to look at all of the available documentation for a particular product/system to understand the operation. One of skill in the art would have combined that knowledge from the various related references because it would be clear that the references were related. For at least this reason, one of skill in the art

could consider it obvious to combine the references that collectively teach a particular technology. The references were identified in the charts for each such system/product, and Wells Fargo intends to rely on the combination of references in each of the system/product charts.

One of skill in the art would have been motivated to combine the different publications and patents that were authored by employees of the same company or assigned to the same assignee and related to the same subject matter, particularly when that assignee was well-known to have experience and knowledge in the design and development of computer architectures and the patents are directed to improvements in the company's products. So, for example, for such companies one of skill in the art would have been motivated to look at the various patents assigned to the companies, as well as articles written about their products, and to combine the approaches taken in those patents and articles for such products. For example, employees at Wells Fargo, NCR, RDM Corporation, IBM, and/or Chase Bank would have been motivated to combine the different publications and patents authored by employees of their same company related to the same subject matter. Likewise, employees at USAA itself would have been motivated to combine the 102(d) different publication and patents authored by employees of their same company related to the same subject matter (*see* Section II.E).

One of skill in the art would have been motivated to combine different references that were authored, developed, or invented by the same individual(s) related to the same subject matter. So, for example, individuals such as Graham Heit, Rabindranath Dutta, Natarajan Ramachandran, John Leekley, Scott Reid, Danne Buchanan, and others, were either the named author (e.g., for a paper) or a named inventor (on a patent) or known as a product architect on multiple related references charted in Exhibits A1-E79. The common inventor/author/architect references themselves demonstrate that they relate to continued work in a common field of effort and

continued related developments in that field. One of skill in the art would, therefore, combine the references related to each individual.

Each of the references can be combined with the known prior art based on the statements made in the specification and during prosecution of the Asserted Patents. For example, the applicants acknowledged that many of the claimed features were well known in the art. *See* Section II.D, above. Thus, it would have been obvious for one of skill in the art to combine this knowledge in the art (as the applicants did) with any of the charted references because the applicants acknowledged that the basic arrangement of elements was known in the art.

Additionally, beyond the elements acknowledged in the patent and prosecution history to be known in the art, to the extent that the USAA alleges that certain elements are missing from any of the charted references, those elements are known in the art or would be inherent in the relevant context. One of skill in the art would have understood that different approaches could be taken depending on the design needs and would have combined those approaches to meet the various design needs.

It would have been obvious to combine any references that expressly refer to each other or incorporate each other by reference. For example, one of skill in the art would have been motivated to combine different references from articles or papers that were known to be related and/or referenced within another related article or paper. So, for example, it would have been obvious to combine a paper referenced in an article with the paper that references the article. In addition, it would have been obvious to combine a patent (or patent application) incorporated by reference into another patent (or patent application). It likewise would have been obvious to combine patents and patent applications from the same patent family.

Exemplary combinations are identified in Exhibit F for purposes of explaining and exemplifying which references would be combined. In many instances, multiple different motivations would apply to a particular combination (for example, if multiple references were both authored by the same person and referred to the same product/system, then both of those motivations would apply).

In addition to the motivations set forth above, one or more combinations of the prior art references identified above and below pursuant to Patent Rule 3-3(a) would have been obvious because these references would have been combined using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining the prior art references identified above pursuant to Patent Rule 3-3(a) because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combinations of the prior art references identified above pursuant to P.R. 3-3(a) would have been obvious because the combinations represent the known potential options with a reasonable expectation of success.

Notwithstanding the factors and motivations identified above, including the exemplary combinations identified in Exhibit F, and notwithstanding the nascent stage of discovery, and subject to the reservation of rights stated above, Wells Fargo contends that an analysis of secondary considerations further supports the view that each of the Asserted Claims is obvious. Secondary considerations that courts evaluate as objective indicia of obviousness or nonobviousness of an alleged invention include (1) commercial success of the claimed subject matter; (2) long felt but

unresolved needs; (3) failure of others; (4) teaching away from the claimed subject matter by the prior art; (5) copying or acclamation by others; and (6) skepticism of experts. *See, e.g., Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1274 (Fed. Cir. 2004); *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1379 (Fed. Cir. 2000).

On information and belief, the Asserted Patents also were not directed to long felt, unresolved needs. On the contrary, the Asserted Patents addressed problems that had been handled successfully in the prior art in view of numerous remote check deposit systems in use as early as 2004 following the passage of Check 21 and the adoption of numerous standard governing check image capture and exchange.

Additionally, and as outlined herein and in the Exhibits, numerous prior art references anticipate the claims of the Asserted Patents, so failure by others cannot be cited as a secondary consideration in favor of nonobviousness. Numerous prior art references, including those identified above pursuant to Patent Rule 3-3(a), are directed to the same approach as the Asserted Patents regarding remote check deposit. Importantly, none of the prior art teaches away from the claimed subject matter. In fact, just the opposite is true, and as shown in these Invalidity Contentions and the accompanying claim charts, the prior art teaches the claimed subject matter. Thus, USAA cannot rely on any teaching away in the prior art.

USAA has not presented any evidence to suggest that others in the industry copied or praised the alleged invention of the Asserted Patents. To the extent that others may have subsequently adopted a similar technique, Wells Fargo asserts that they were in fact copying well-known systems that predate the Asserted Patents—including systems codified into law by Check 21 and for which ANSI standards had already issued. At the time of the alleged invention of the Asserted Patents, experts would not have been skeptical of the general approach or idea disclosed

therein. The general idea—remote check image capture and processing—had already been in widespread use for a long time and was not patentable by the time the applicants filed their patent applications. Experts would have regarded the disclosures and matter claimed in the Asserted Patents as obvious.

Any reference or combination of references that anticipates or makes obvious an independent claim also makes obvious any claim dependent on that independent claim because every element of each dependent claim was known by a person of ordinary skill at the time of the alleged invention, and it would have been obvious to combine those known elements with the independent claim at least as a matter of common sense and routine innovation. Accordingly, Wells Fargo contends that each claim would have been obvious not only by the combinations explicitly defined in these contentions, but also by any combination of references that renders obvious that claim.

To the extent USAA contends that any reference contains multiple distinct embodiments, it would be obvious to combine elements of the distinct embodiments. A person would be motivated to make such a combination because the elements are found in the same reference and the reference as a whole is directed to the same topic or topics.

VII. INVALIDITY UNDER 35 U.S.C. § 112(¶1/a)

Pursuant to Patent Rule 3-3(d), Wells Fargo hereby identifies grounds of invalidity based on lack of written description and enablement under 35 U.S.C. § 112(¶1/a) (requiring “a written description of the [claimed] invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.”). Wells Fargo reserves the right to supplement or amend these contentions based on USAA’s representations

during the course of the litigation (including during claim construction) and following any claim construction rulings of the Court.

USAA has asserted in its Patent Rule 3-1(e) disclosures, for each Asserted Patent, that each Asserted Claim of the Asserted Patents is entitled to the filing date of the patent's earliest ancestor application as its priority date (hereinafter, "the Asserted Priority Application"). Wells Fargo denies that asserted entitlement but in view of such position of USAA in its Patent Rule 3-1(e) disclosure, that Asserted Priority Application is the application governing invalidity of the claims under Sec. 112(¶1/a), and therefore these Invalidity Contentions focus on the lack of support in the Asserted Priority Application for each claim.

Throughout these contentions, an assertion that an application did not "support" a claim or claim element means—unless otherwise noted—that the application did not provide as of the filing date sought:

- (a) the required written description for the claim element and the claimed subject matter;
- (b) the required written description for the full-scope of the claim element and the claim;
- (c) the required enabling disclosure for the claim element and the claimed subject matter;
- (d) the required enabling disclosure for the full-scope of the claim element and the claim;
- (e) a description of the claimed "invention" understandable to a skilled artisan and showing that the applicant actually possessed such "invention";

- (f) a description of the claimed “invention” that was express or necessarily present (inherent), complete, unambiguous, specific, and as broad as the claim; or
- (g) a disclosure teaching a skilled artisan how, by following the steps set forth in the application, to make or carry out (use) the claimed “invention” without undue experimentation.

Throughout these contentions, an assertion that an application did not “support” an independent claim or language in an independent claim means—unless otherwise noted—that the application did not support that claim’s asserted dependent claims either.

Each Asserted Claim of the Asserted Patents is invalid (or alternatively not entitled to the benefit of an earlier filed date) for failure of the Asserted Priority Application (filed on October 31, 2006) to support the claim. For each Asserted Claim, the Asserted Priority Application failed to support the claim and individual elements of the claim, as listed below.

As noted, USAA’s selection of the October 31, 2006 applications as its “priority” applications makes those applications the governing applications for the written description and enablement invalidity defenses, notwithstanding their lack of support for the Asserted Claims. *Los Angeles Biomedical Research Inst. v. Eli Lilly and Co.*, 849 F.3d 1049, 1057 (“To satisfy the written description requirement, the disclosure in each application must ‘reasonably convey[]’ to those skilled in the art that as of the claimed priority date the inventor was in possession of the later claimed subject matter.” (citing *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991))). Nevertheless, Wells Fargo also alleges that none of the applications leading to issuance of the Asserted Patents supported the Asserted Claims. For each Asserted Claim, no application leading to the issuance of the Asserted Patents adequately supported the claim and individual elements of the claim, as listed below:

'332 Claim 1

- generating a log file, said log file comprising said second image, an identification of said customer-controlled general purpose computer, and an identification of an image capture device that was used to capture said first image

'332 Claim 4

- said log file further comprises an identification of an operating system associated with said customer controlled general purpose computer

'332 Claim 6

- said log file further comprises an identification of an image capture device type for an image capture device that was used to capture said first image

'332 Claim 8

- generate a log file, said log file comprising said second image, an identification of said customer controlled general purpose computer, and an identification of an image capture device that was used to capture said first image

'332 Claim 11

- wherein said log file further comprises an identification of an operating system associated with said customer controlled general purpose computer

'332 Claim 13

- wherein said log file further comprises an identification of an image capture device type for an image capture device that was used to capture said first image

'332 Claim 15

- instructions for generating a log file, said log file comprising said second image, an identification of said customer-controlled general purpose computer, and an identification of an image capture device that was used to capture said first image

'332 Claim 18

- wherein said log file further comprises an identification of an operating system associated with said customer- controlled general purpose computer

'332 Claim 20

- wherein said log file further comprises an identification of an image capture device type for an image capture device that was used to capture said first image

'227 Claim 1

- identify selected points of said initial image to enable cropping of said initial image beyond a boundary of the front side of said check;
- approve a cropped portion of said initial image, the cropped portion including said image of the front side of said check;
- initiate said deposit of said check into said account.

'227 Claim 5

- identify selected points of said initial image to enable cropping of said initial image beyond a boundary of the front side of said check;
- approve a cropped portion of said initial image, the cropped portion including said image of the front side of said check;
- initiating said deposit of said check into said account

'227 Claim 9

- identify selected points of said initial image to enable cropping of said initial image beyond a boundary of the front side of said check;
- approve a cropped portion of said initial image, the cropped portion including said image of the front side of said check;
- initiate said deposit of said check into said account.

'136 Claim 1

- initiate a check deposit for the check image

'136 Claim 7

- initiate a check deposit for the check image

'136 Claim 14

- wherein the image of the front side of the check is received from a remote device

'605 Claim 1

- a portable device comprising a general purpose computer;
- camera software comprising instructions that, when executed by the processor, control the digital camera;

- a downloaded software component configured to control the camera software and to manage capturing electronic images, the software component comprising instructions that, when executed by the processor, cause the portable device to perform operations including;
- instructing a user of the portable device;
- displaying an instruction on a display of the portable device;
- transmitting, using a wireless network, a copy of the electronic images over a public electronic communications network from the portable device, wherein the transmitted copy of the electronic images is a modified version of the electronic images captured with the digital camera, the modified version having a different electronic format than the images captured with the digital camera; and
- confirming that the deposit can go forward;
- initiating the deposit after the confirming; and
- another computer, remote from the portable device, comprising a processor coupled to a memory storing instructions that, when executed by the processor, cause the other computer to update a balance to reflect the amount of the check submitted for deposit by the portable device.

'605 Claim 3

- wherein the system is configured to perform the update after the system determines that some mark or signature is present in an endorsement location on the back side of the check in the electronic images

'605 Claim 5

- the portable device is a PDA

'605 Claim 9

- the downloaded software component operations further comprise;
- receiving input from the user of the portable device indicating an amount of the check.

'605 Claim 10

- wherein the instructing is performed after the receiving

'605 Claim 12

- handheld mobile device with a digital camera;

- a customer's handheld mobile device including: camera software that controls the digital camera; and a downloaded app associated with a bank [sic] configured to control the camera software and to control submitting a check for deposit by causing the customer's handheld mobile device to perform the following steps;
- using a display of the customer's handheld mobile device;
- presenting the photos of the check to the customer after the digital camera takes the photos;
- transmitting, using a wireless network, a copy of the photos over the Internet from the customer's handheld mobile device;
- a computer associated with the bank programmed to update a balance of an account to reflect an amount of the check submitted for a mobile check deposit by the customer's handheld mobile device;
- confirming that the mobile check deposit can go forward
- initiating the mobile check deposit

'605 Claim 16

- wherein the customer's handheld mobile device is a PDA

'605 Claim 19

- wherein the downloaded app manages taking the photos

'605 Claim 20

- the downloaded app causes the customer's mobile device to perform the additional step of receiving input from the customer indicating an amount of the check

'605 Claim 21

- wherein the instructing step is performed after the receiving step

'605 Claim 25

- wherein the copy of the photos has a different format than the photos taken with the customer's digital camera

'605 Claim 28

- wherein the authentication includes receiving data representing a customer fingerprint

'681 Claim 1

- a portable device comprising a general purpose computer;
- camera software comprising instructions that, when executed by the processor, control a digital camera;
- a downloaded software component to control the camera software and to handle capturing electronic images, the software component comprising instructions that, when executed by the processor, cause the portable device to perform operations;
- instructing a user of the portable device;
- using a wireless network, transmitting a copy of the electronic images over a public communications network from the portable device and submitting the check for deposit after the user is authenticated, the electronic images of the check are presented to the user, and the portable device checks for errors; and
- wherein the transmitted copy of the electronic images is a modified version of the electronic images captured with the digital camera, the modified version having a different electronic format than the images captured with the digital camera.

'681 Claim 5

- wherein the portable device is a laptop

'681 Claim 11

- the portable device to perform an additional step of assisting the user

'681 Claim 12

- customer's own mobile device with a digital camera;
- a customer's mobile device including: camera software that works with the digital camera; and a downloaded app associated with a bank to work with the camera software and to control submission of a check for deposit by causing the customer's mobile device to perform;
- confirming that the mobile check deposit can go forward;
- using a wireless network, transmitting a copy of the photos over a public communications network from the customer's mobile device

'681 Claim 16

- the customer's mobile device is a laptop

'681 Claim 19

- the app handles taking the photos

'681 Claim 25

- the copy has a different format than the photos taken with the digital camera

'681 Claim 26

- wherein the downloaded apps cause the customer's mobile device to perform an additional step of assisting the customer with lighting for taking the photos of the check

'681 Claim 29

- wherein the steps further include giving an instruction to assist the customer in placing the digital camera at a proper distance away from the check for taking the photos

'681 Claim 30

- when downloaded and run by a customer's mobile device, causes the customer's mobile device to perform;
- confirming that the mobile check deposit can go forward;
- using a wireless network, transmitting a copy of the photos over a public communications network from the customer's mobile device and submitting the check for mobile check deposit after the customer is authenticated, the photos of the check are presented to the customer, and the customer's mobile device checks for errors.

VIII. INVALIDITY UNDER 35 U.S.C. § 112(¶2/b)

Pursuant to Patent Rule 3-3(d), Wells Fargo hereby identifies grounds of invalidity “based on indefiniteness” under 35 U.S.C. § 112(¶2/b) (requiring “claims particularly pointing out and distinctly claiming the” “invention”). Wells Fargo reserves the right to supplement or amend these contentions based on USAA’s representations during the course of the litigation (including during claim construction) and following any claim construction rulings of the Court. The Patent Rules do not require these contentions to include, and Wells Fargo does not include, contentions

regarding invalidity under the additional “regards as the invention” requirement of Section 112(¶2/b).

Throughout these contentions, an assertion that a claim or claim language was unclear and imprecise means—unless otherwise noted—that the claim, each claim containing that claim language, and each dependent claim therefrom, read by a skilled artisan at the time of the patent application, in light of the application and its Patent Office prosecution history leading to issuance of the patent:

- (a) failed the statute’s particular and distinct claiming mandate;
- (b) failed to inform, with reasonable certainty, those skilled in the art at the time of the patent application of the scope of the claimed invention; and
- (c) failed to clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise.

An assertion that a claim or claim language was unclear and imprecise does not necessarily mean that the claim or claim language is not now amenable to construction by the court.

Each asserted claim of the Asserted Patents is invalid under 35 U.S.C. § 112(¶2/b). The Asserted Claims recite the following limitations (and derivations thereof), the meaning of which cannot be ascertained by a person of ordinary skill in the art when read in light of the specifications:

- check amount indication
- validate the routing number and/or validating a routing number
- bank stamp
- process the image
- deposit information
- mark
- signature identification procedure

- remote deposit processing component
- error in said deposit
- identify selected points
- assisting the user as to an orientation for capturing the electronic images of the check and/or assisting the customer as to an orientation for taking the photos
- different electronic format
- confirming that the deposit can go forward

In addition, the Asserted Patents purported incorporation by reference of other patents and patent applications adds to the lack of clarity and imprecision noted above. For example, it was unclear what portions of that other patents and patent applications if any, affected the scope of the asserted claims.

IX. INVALIDITY UNDER 35 U.S.C. § 101

Wells Fargo contends that the Asserted Patents are invalid as claiming an abstract idea under 35 U.S.C. § 101, and reserves the right to seek summary judgment or other relief from the Court related to the same. Wells Fargo further reserves the right to allege that the patents are invalid based on statutory and non-statutory double-patenting.

X. ACCOMPANYING DOCUMENT PRODUCTION

Pursuant to Patent Rule 3-4(a), Wells Fargo incorporates by reference its prior production WFB_00000001 – 00014104, WFB_00014105 – 00016667, WFB_00026904 – 00026732, MITEK_00000001 – MITEK_0005658, and WFB_00026733 – WFB_00027041, and is concurrently producing additional technical documentation as WFB_00035000 – WFB_00039236. In addition, Wells Fargo and Mitek Systems, Inc. have collected relevant source code and have already made such source code available to USAA, and hereby incorporates by reference its prior source code productions printed as WFBSC_000000001 – 00001039. Wells

Fargo's investigation is ongoing. If and when any additional documents required to be disclosed under this rule are discovered, Wells Fargo will timely produce them.

Pursuant to Patent Rule 3-4(b), Wells Fargo is incorporating by reference its previous prior art production WFB_00016668 – 00026093 and is concurrently producing copies of additional identified prior art as WFB_00027042 – 00034999, WFB_00039237 – 00046214, and making prior art source code available on the source code computer. Wells Fargo's investigation is ongoing. If and when any additional documents required to be disclosed under this rule are discovered, including any documents received in response to the subpoenas listed in Section II.C., Wells Fargo will timely produce them.

January 18, 2019

Respectfully submitted,

By: /s/ Thomas M. Melsheimer
Thomas M. Melsheimer
TX Bar No. 13922550
tmelsheimer@winston.com
Michael A. Bittner
TX Bar No. 24064905
mbittner@winston.com
J. Travis Underwood
TX Bar No. 24102587
tunderwood@winston.com
Winston & Strawn LLP
2121 North Pearl Street, Suite 900
Dallas, TX 75201
(214) 453-6500 – Telephone
(214) 453-6400 – Facsimile

E. Danielle T. Williams
NC Bar No. 23283
dwilliams@winston.com
Winston & Strawn LLP
300 South Tryon Street, 16th Floor
Charlotte, NC 28202
(704) 350-7700 – Telephone
(704) 350-7800 – Facsimile

Matthew R. McCullough
CA Bar No. 301330
mrmccullough@winston.com
Winston & Strawn LLP
275 Middlefield Road, Suite 205
Menlo Park, CA 94025
(650) 858-6500 – Telephone
(650) 858-6550 – Facsimile

*Counsel for Defendant
Wells Fargo Bank, N.A.*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the above and foregoing document has been served on January 18, 2019, via electronic mail to all counsel of record for Plaintiff.

/s/ Michael A. Bittner

Michael A. Bittner